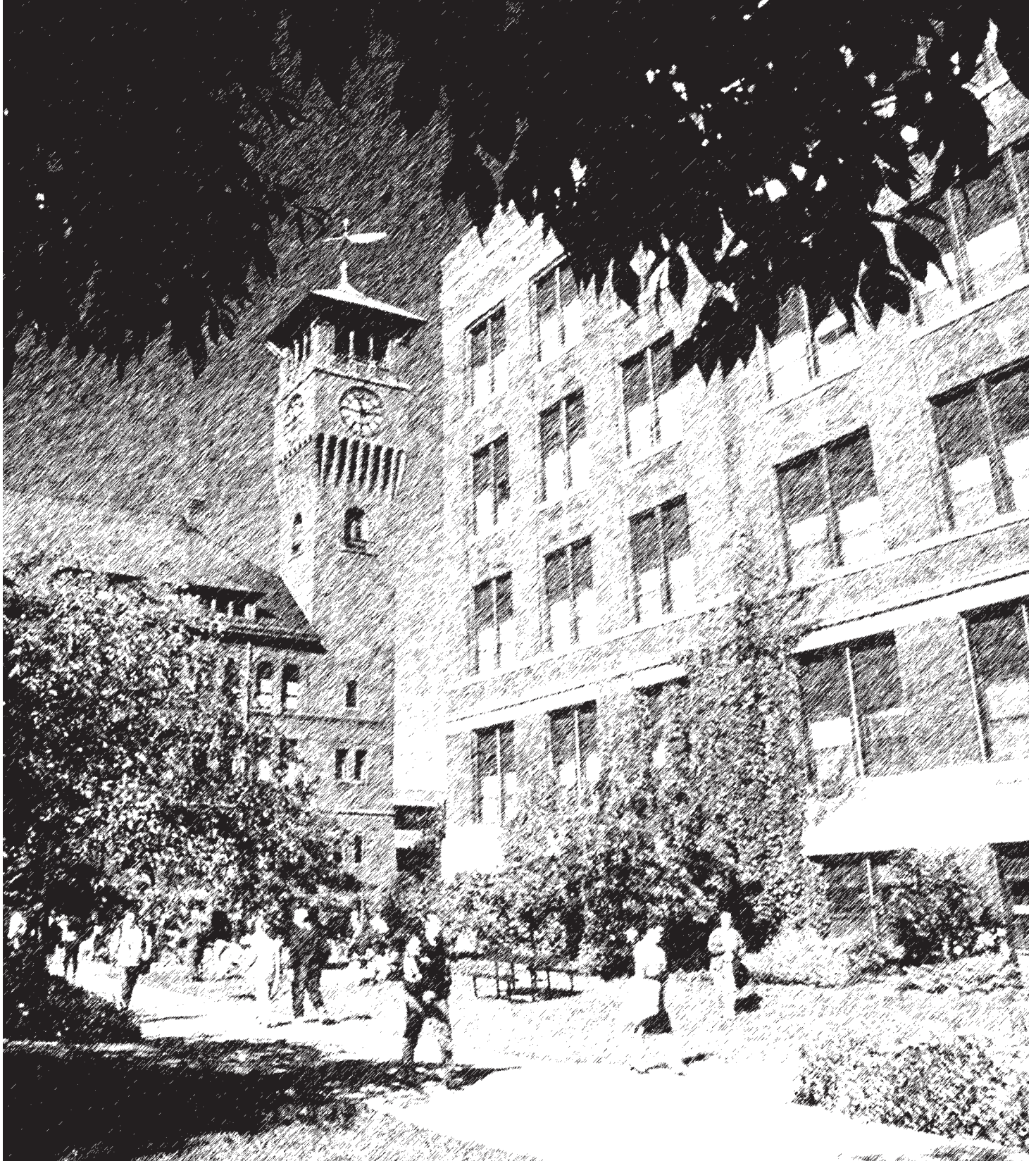


General Information



The University

UW-Stout

UW-Stout is one of 13 publicly supported universities in the University of Wisconsin System. It was founded as a private institution in 1891 by James H. Stout. A Menomonie industrialist and a man of great vision, he saw that students in America's developing industrial society needed a different kind of education, an education broader than that offered by the traditional curriculum. Since its founding, UW-Stout has gained a position of national leadership in its specialized areas. Although UW-Stout is a career-oriented university, the humanities, social and natural sciences are key parts of the total educational program.

UW-Stout's Special Mission

UW-Stout, as a special mission institution, serves a unique role in the UW System. UW-Stout is characterized by a distinctive array of programs leading to professional careers focused on the needs of society. The university offers undergraduate and graduate programs leading to professional careers in industry, commerce, education and human services through the study of technology, applied mathematics and science, art, business, industrial management, human behavior, family and consumer sciences, and manufacturing-related engineering and technologies. These programs are presented through an approach to learning which involves integration of theory, practice and experimentation. Extending UW-Stout's mission into the future requires that instruction, research and public service programs be adapted and modified as the needs of society change. Full text of the mission is online at www.uwstout.edu/geninfo/mission.shtml.

Wisconsin's Polytechnic University

University of Wisconsin-Stout is a comprehensive, career-focused polytechnic university where students, faculty and staff use applied learning, scientific theory and research to solve real-world problems, grow the state economy and serve society. Our tenets:

Career Focus: A polytechnic university offers a comprehensive curriculum that prepares graduates for professional careers.

Applied Learning: A polytechnic university blends theory with practice to produce innovative solutions to real world problems.

Collaboration: A polytechnic university works closely with business, industry and other educational institutions to benefit students and grow the economy.

Recognized Quality

In 2001, UW-Stout became the first university in the nation to receive the Malcolm Baldrige National Quality Award, America's highest honor for performance excellence and quality achievement.

The university's mission driven, market smart focus promotes collaborative leadership and an inclusive strategic planning process. Baldrige Award criteria are used by organizations worldwide. Winning organizations become quality advocates, informing thousands about the criteria benefits, including better employee relations, higher productivity and greater customer satisfaction.

The Faculty and Academic Staff

Because UW-Stout has specialized in certain areas, we have developed a staff of individuals nationally recognized in their fields. All classes are taught by the faculty and academic staff except for a small number of laboratory courses which are taught by highly qualified graduate assistants. With a staff of 389, the student-teacher ratio is about 19:1. The faculty's commitment to provide extra help to students is, one of UW-Stout's proudest traditions.

Students

In terms of enrollment, UW-Stout is not a local or state school. Its 8,416 students come from 37 states and 24 nations. Students have a major voice in the affairs of the university and sit on important university committees. Besides regular and informal meetings with students, the university's chancellor has an "open door policy." Students participate in more than 120 clubs and organizations on campus, including national fraternities and sororities.

Facilities

Modern and well-equipped facilities mark UW-Stout's 119-acre campus. We are proud of our laboratory-intensive programs. More than 265 laboratories are available for study and research in the areas of electronics, power, industrial management, industrial design, industrial graphics, packaging, plastics, graphic communications and telecommunications.

Laboratories are maintained for the study of food science, dietetics, hospitality, tourism, interior decorating, retail merchandising, clothing and textile design, human development, and family and consumer educational services. Studios and laboratories support programs in art, graphic design, industrial design, interior design and multimedia design. Specialized computer laboratories support the applied mathematics and computer science program. Historic Harvey Hall houses a 600-seat auditorium, home to Stout's theatre company.

The Stout Vocational Rehabilitation Institute provides research and practicum experience for students in the vocational rehabilitation program. Students work with professionals at the institute to provide services for clients referred by state agencies.

Located in the center of the city of Menomonie, adjacent to the downtown business district and Lake Menomin, UW-Stout offers an attractive, convenient and accessible campus setting.

The Community

Located in scenic western Wisconsin, Menomonie has a population of approximately 15,400. The area's natural beauty, with lakes, rivers and hills, provides many year-round recreational and sports opportunities. Major entertainment and cultural activities are available on campus, in the community and in the nearby Minneapolis-St. Paul metropolitan area, about an hour away.

Admissions

Information for All Applicants

This section provides general information for degree-seeking students. If you wish to take classes for professional or personal development, you need only read the section titled "Special Students."

If you will be taking classes to work toward a degree, you must apply for admission to the university. You can obtain a UW System Application for Admission form by writing the director of Admissions at UW-Stout, contacting any Wisconsin or Minnesota high school guidance office, or online at www.apply.wisconsin.edu.

UW-Stout accepts applications as early as September 15 for admission to the following fall term. There is no deadline for applications; however, we are limited in the number of students we can accept. New freshmen may declare a major on the application form or apply as "undecided."

Keep in mind that you may also have to meet entry standards set by a school or department. See the sections on the individual programs for more information.

UW-Stout will keep you informed of pertinent changes at the university. If you have the chance to study part time elsewhere, you will be able to check the transferability of your course work to UW-Stout by contacting the university's Admissions Office. If transferring from a UW System institution, check online at www.uwsa.edu/tis.

Notice: You must provide the university with accurate information about your personal and educational history. UW-Stout's policy is that students who intentionally falsify or omit information given as part of their university record will be suspended.

Admission Categories

Admission procedures and standards vary somewhat from group to group. Following is a definition of each category. Find the category that applies to you, then find the section for that category (pages 4-7) for information on what you will need in order to be admitted to UW-Stout.

Freshmen: graduates of high schools in the United States and those who will be graduating, who have not attended another university or technical college or school after high school.

UW System transfer students: applicants who have attended another university in the UW System and wish to transfer to UW-Stout.

Technical college transfer students: **applicants who have attended a technical college or school and wish to transfer to UW-Stout.**

Other transfer students: students who have attended a university outside the UW System and wish to transfer to UW-Stout.

Re-entry students: students who have attended UW-Stout in the past and wish to again take classes at the university.

Special students: students (*including those still in high school*) who wish to further their education, but are not seeking a degree from UW-Stout.

Youth Options: high school students who wish to take university courses under the Youth Options program. Students must apply both through their high school and UW-Stout for permission to enroll.

International students: students from countries other than the United States who wish to attend UW-Stout.

Auditing Classes

If you are not concerned about receiving college credit for courses you take, you may audit classes. Wisconsin residents may audit classes for 30 percent of the normal per credit academic fee. The cost for nonresidents is 50 percent of the normal fee. Senior citizens age 60 or older by the first day of class only pay textbook and lab fees for audit credits.

You may audit classes provided that you apply for admission; the class teacher approves your request to audit the class; you pay any special costs for course instruction other than the normal tuition; and the university will not be required to provide additional classroom or laboratory space for you, and will not realize increased instructional costs.

You will receive only provisional permission to attend classes until course registration is completed. You may not change your admission status and take the course for credit once the class has started. A course which has been audited may not be retaken for credit. You will be subject to Regent, university and student government regulations, just like students who are taking courses for credit.

Note: As with all students attending the university, special students and auditors must provide UW-Stout with accurate information about their personal and educational history. The university policy is that students who intentionally falsify or omit information given as part of their university record will be suspended.

Freshmen:

1. Applications and transcripts may be submitted as early as September for admission the following fall, or early March for the following spring semester. UW-Stout enrollments are limited, so it is important that you plan and apply early. Students applying for the Art–Graphic Design and Art–Interior design programs must submit their complete application materials and portfolio to the Admissions Office by early January (*check the website for specific date*).
2. You must be a graduate from a recognized high school or equivalent.
3. Academic preparation and success are the primary factors considered for admission to the university. No single factor, attribute or characteristic will be used to determine admission. Admission will be based on multiple criteria including academic and personal achievements. Non-academic qualifications can make a good applicant strong. However, they will not make an academically weak applicant admissible.
4. Applicants must complete the high school course requirements as determined by the University of Wisconsin System.
 - four credits of English: including literature, composition, rhetoric and speech.
 - three credits of Mathematics: algebra I, geometry and algebra II.
 - three credits of Natural Science: biology, chemistry and physics.
 - three credits of Social Science/History.
 - four credits of Electives: chosen from the areas listed above, foreign language, fine arts, computer science and other academic, career and technical areas.
5. Foreign language is not required for admission, however two years of the same language with a grade of "C" or better meets UW-Stout's global perspective requirement.
6. Applicants must earn good grades and maintain a high level of achievement in challenging coursework.
7. The pattern of grades over time is important and an increasingly strong academic record can improve the likelihood of admission.
8. Class rank is requested of all applicants and we consider rank along with other factors.
9. A copy of your ACT score is also required of all applicants to be considered with other factors. We will also accept the SAT.

All freshmen must take the ACT or SAT, however, the test is not the only criterion for admission. The admission test requirement may be waived if you have been out of high school for two or more years, are age 21 or older, or are an international student.
10. In addition to academic achievement, the Admissions Office will consider the following as part of the review of an application: leadership, volunteerism, personal statement, honors and awards, letters of recommendation, socio-economic background, extracurricular activities, diversity of personal background, work experience and military experience.
11. New freshmen are likely to be admitted if they rank in the top 50 percent of their graduating class or have earned a minimum ACT composite score of 22 (*or SAT equivalent*).
12. Applicants to the **Manufacturing Engineering** and **Applied Science** programs must meet the criteria above, plus rank in the upper 40 percent of their high school class, and have an ACT mathematics score of 22 or SAT equivalent. Applicants who are not in the top 40 percent of their high school class must have a 22 ACT composite and a 22 math score, or 1030 SAT equivalent. Applicants to the **Applied Mathematics and Computer Science** program must meet the criteria above, plus rank in the upper 50 percent of their high school class, and have a 22 ACT composite and mathematics score of 22 or SAT equivalent.

Non-Traditional Admission Requirements Applicants who have been out of school for two years or more may also be considered for admission if, on the basis of other factors, they appear to have a reasonable probability of success in college. Applicants with a GED or High School Equivalency Diploma may not normally be admitted unless they are a minimum of two years past their expected date of high school graduation. It is recommended that applicants have a GED examination average score of 50 or better to be considered for admission to the university.

UW System Transfer Students

1. The university will need an official transcript from each post-secondary institution you have attended. High school transcripts are also required if, at the point of application, the student has not already earned a two-year degree. Applications and transcripts may be submitted as early as September for admission the following fall, and early March for the following spring semester. Apply early so you can register for classes and complete the financial aid application process in a timely manner. UW-Stout enrollments are limited, so it's important that you plan and apply early.
2. You must have a cumulative grade point average of at least 2.50 on a 4.0 scale.
3. If you have fewer than 30 transferable credits and less than a 2.50 cumulative grade point average, you may still be admissible to UW-Stout if you would have been admissible as a new freshman. You will be placed on a wait list and possibly admitted on probation if space is available. You will be notified no later than June 15 for fall admission.
4. All students wishing to transfer into a teacher education program must have a 2.75 cumulative grade point average and could be admitted as a Pre-Education student. Subsequent acceptance into a teacher education major and enrollment in professional education coursework will require successful completion of Benchmark I. For more information on Benchmark I go to www.uwstout.edu/soe/students/forms.shtml.
5. UW-Stout has a joint admission policy with the UW System Colleges. If you choose to participate in this program, you are guaranteed admission to UW-Stout, provided you meet the provisions of the policy.

UW System College counselors can help you select course work that will relate to your planned major at UW-Stout. Under UW System policy, you may transfer up to half the number of credits required for graduation in your major at UW-Stout.

Applied Science and Manufacturing Engineering Transfer Applicants

Applicants to the Applied Science and Manufacturing Engineering programs must meet either the criteria as listed for freshmen or the specific requirements for transfer students. These requirements may be obtained online at:

Applied Science » www.uwstout.edu/programs/bsas

Manufacturing Engineering » www.uwstout.edu/programs/bsmfe

Technical College Transfer Students

1. The university will need an official transcript from each post-secondary institution you have attended. High school transcripts are also required if, at the point of application, the student has not already earned a two-year degree. Applications and transcripts may be submitted as early as September for admission the following fall, and early March for the following spring semester.
Apply early so you can register for classes and complete the financial aid application process. UW-Stout enrollments are limited, so it's important that you plan and apply early.
2. You must have a cumulative grade point average of at least 2.50 (on a 4.0 scale) at the institution you most recently attended. If your cumulative grade point average is greater than 2.20 but less than 2.50, you may be offered admission on probation or placed on a wait list and admitted at a later date if space permits.
3. All students wishing to transfer into a teacher education program must have a 2.75 cumulative grade point average and be admitted as a Pre-Education student. Subsequent acceptance into a teacher education major and enrollment in professional education coursework will require successful completion of Benchmark I. For more information on Benchmark I go to www.uwstout.edu/soe/students/forms.shtml.
4. If you are transferring from a technical college, UW-Stout will accept credits you have earned from Wisconsin technical college parallel programs, and similar programs from other states.
5. UW-Stout has identified many associate degree programs that are not college parallel, but follow a professional development pattern similar to programs at the university. If you're transferring from such a program, UW-Stout may accept some of your technical credits.
6. Credit earned from institutions which are fully accredited, or candidates for accreditation, are fully transferable. Credits from institutions accredited by a professional accrediting association may transfer in the specialty of accreditation if recommended by the appropriate academic department.

Articulation Agreements

UW-Stout maintains program articulation agreements with various technical and community colleges in Wisconsin and neighboring states. If you are a student enrolled in an A.A.S. or A.A.A. program and considering a transfer to UW-Stout, call the Admissions Office at 715/232-1411 or check online at www.uwstout.edu/admissions/transfer.shtml for the most up-to-date listing of program agreements.

Other Transfer Students

1. The university will need an official transcript from each post-secondary institution you have attended. High school transcripts are also required if, at the point of application, the student has not already earned a two-year degree. Applications and transcripts may be submitted as early as September for admission the following fall, and early March for the following spring semester. Apply early so you can register for classes and complete the financial aid application process. UW-Stout enrollments are limited, so it's important that you plan and apply early.
2. If your cumulative grade point average is above 2.20 but less than 2.50, you may be placed on a wait list and admitted at a later date if space permits.
3. All students wishing to transfer into a teacher education program must have a 2.75 cumulative grade point average and be admitted as a Pre-Education student. Subsequent acceptance into a teacher education major and enrollment in professional education coursework will require successful completion of the Pre-Professional Skills Test (PPST).
4. Credit earned from institutions that are fully accredited, or candidates for accreditation, are fully transferable. If you are transferring from an institution accredited by a professional accrediting association, the academic department you are entering will determine if credits in a specialty area will apply to your major.

Re-entry Students

There are two types of re-entry students: Regular re-entry students are those who have completed no transferable credits from any post-secondary institution since they last attended UW-Stout. Transfer re-entry students are those who have completed transferable credits at a post-secondary institution since they last attended UW-Stout.

Regular re-entry students:

1. You need to complete the UW System Application for Admission form and return it to the Admissions Office. If you left the university in good standing, you may be readmitted as enrollment management goals allow.
2. If you left on academic probation, you may be readmitted on academic probation, if there is room for you in your chosen program.
3. The director of admissions or a designee will review applications from re-entry students who were academically dismissed from the university. If the application for readmission is denied, the decision may be appealed to the Dean of Students Office.

Transfer re-entry students:

1. You must submit official transcripts from each institution you attended, as well as a completed UW System Application for Admission form. If you left the university in good standing or on probation, you will be readmitted in the same status, provided you are eligible to return to the institution you last attended, and provided enrollment management goals have not been reached.
2. If you left UW-Stout because of academic dismissal, you may be readmitted on probation. Decisions will be made on a case by case basis at the discretion of the director of admissions and considering enrollment targets. Students are required to submit a letter of appeal.
3. If your transfer grade point average is less than 2.20, you will be denied readmittance to UW-Stout. Denial decisions may be appealed to the Dean of Students Office.

Special Students

This diverse group of students may include mid-career professionals seeking certification for a changing technology, community members seeking courses for personal fulfillment, high school students taking classes not offered at a high school, guests and auditors. Special students may be admitted as enrollment management goals permit.

1. To be admitted as a special student, simply indicate that status on the application for admission. You do not need to indicate a major, submit transcripts, take the ACT, or pay the application fee. High school students admitted as special students must gain the approval of their parents and their high school, and submit a high school transcript.
2. As a special student, you must take the English and math placement tests before enrolling in an English or math course.
3. You are not eligible for financial aid.
4. You are limited to six credits each semester (*exceptions must be approved by the Office of Advisement*).
5. You may request to change your status to degree-seeking student after you have completed 12 credits. You may accumulate a maximum of 29 credits as a special student.
6. If you decide to change your status and become a degree-seeking student, you will have to complete the application process required of new students-submit transcripts, pay the application fee, complete a change of major form, and submit ACT or SAT scores.
7. High school students who wish to take classes at the university must rank in the top 50 percent of their high school class or have an ACT composite score of 22 or better, or SAT equivalent.

Youth Options Program

The Youth Options program serves high school students who wish to take classes not offered at a high school.

1. To be admitted as a Youth Options student, simply indicate that status on the application for admission. You do not need to indicate a major, take the ACT or SAT or pay the application fee. You must gain the approval of your parents and your high school.
2. You must take the English and math placement tests before enrolling in an English or math course.
3. You are not eligible for financial aid.
4. You must rank in the top 50 percent of your high school class or have an ACT composite score of 22 or better, or SAT equivalent.

International Students

1. All potential international students should have better than average academic records.
2. All applicants must present the university with official copies of their academic record.

First-year students must send certified copies of certificates, diplomas or degrees earned. These official records must be equal to a United States high school (secondary school) graduation for consideration.

Transfer students must submit certified records of their post-secondary academic work. The records must show the courses the students have taken and the grades they have earned. The university will not grant credit for courses unless there is evidence that the students have satisfactorily completed them.

Credit may be granted to international students if the institution they attended is listed in either the International Handbook of Universities or the Commonwealth Universities Handbook. Credit from institutions not listed in these publications may be transferred only upon the recommendation of the appropriate department.

3. The university will deny admission to students who submit records with any alterations or irregularities.
4. Additional records presented after the student has enrolled will not be considered for transfer.
5. Students from non-English speaking countries are required to take the Test of English as a Foreign Language (TOEFL). Applicants will need a minimum score of 500 (*or 173 score on computer-based test*) to enroll in full-time study.

For information on taking the TOEFL, write to:

TOEFL Services – Educational Testing Service
PO Box 6151
Princeton, NJ, USA 08541-6151 USA

The TOEFL will be waived if students have completed an ESL program from an accredited college or university or other program approved by UW-Stout.

6. All international students must show evidence that they have adequate finances to undertake a degree program at UW-Stout.

As a condition of admission, international students whose sponsors have a history of delinquency in payment of fees must place on deposit an amount approximately equal to the institution's non-resident tuition and fees for a 12-month period, which includes two semesters and an eight-week summer term. Applicants who must meet this requirement will be notified when the university receives their applications.

Questions about this policy may be addressed to the Office of Student Business Services or to the Office of International Education.

Scholastic Standards

Student Handbook

The Student Handbook is available online at www.uwstout.edu/shb. The handbook contains helpful information related to academic standards and campus policies, campus programs, rules and regulations, activities, organizations, and services. It is an official document of the university and contains many of the details not found in this bulletin. All students are subject to the rules and standards as they are presented in the handbook.

Semester Credit

UW-Stout expresses credit in semester hours. One credit represents the satisfactory completion of the work of one meeting a week for a period of one semester. A course having five meetings a week will usually give five semester hours of credit. In order to receive a degree, you must not only gain the required number of credits in the program you are pursuing, but also must attain a certain standard of scholarship. (See also "Suspension and Probation.")

Credit by Examination

You may be able to receive credit by demonstrating your competence through examination. External examinations include the College Level Examination Program (CLEP) and the Proficiency Examination Program (PEP). For further information on external examinations, contact the Counseling Center.

You may also receive credit through the "test out" procedures developed by various university academic departments. For more information, contact the appropriate school or department office. If you test out of a course, you will be charged a testing fee.

Credit Registration and Overload Policy

A normal semester credit load is 16 or 17 credits. Register only for those classes you intend to complete. Do not register for classes which conflict with other class(es).

Undergraduate students, with the exception of graduating seniors, will be restricted to 18 credits during the early registration. Once registration is completed, students may add credits up to a maximum of 20 during the add/drop period. A fee will be charged for any credits beyond 18.

You may seek a waiver of the 20-credit limit by appealing to your program director. If the program director approves an overload permit, you must file it in the Registration and Records Office.

During summer session, you may enroll for a maximum of one credit per week. Again, if you want to seek a waiver to the credit limit, contact your program director.

Retroactive Credit for Foreign Language

Students who earn a grade of "B" (3.0) or better in foreign language courses would also receive credit for the lower level foreign language course or courses associated with that course.

Math and English Placement

Remedial Placement Students who are not transferring credits in math or English must take the regional math and English placement tests. These are given around the state during the spring semester. Make-up tests are given in the summer at announced times. Students who place into remedial math or English must successfully complete the course by the end of 30 credits or they will not be permitted to register.

English Placement Students who perform well on the placement tests may be placed in an advanced English class (*ENGL-111 Freshman English – Honors*).

Advanced Placement UW-Stout grants credit for scores of three or greater on the College Board Advanced Placement test. In addition, students can receive credit for a specific course. For more information about advanced placement examinations, call the Office of Admissions at 715/232-1411.

Add/Drop Policy

Even with careful planning, you may find you have to add or drop a class after the semester begins. To comply with accreditation and financial aid regulations, UW-Stout has a published add/drop policy.

The following serves as UW-Stout's procedures for adding or dropping classes within the guidelines of the policy:

Students are expected to complete courses for which they register. Students who wish to adjust their class schedules may add or drop classes before the end of the second week of semester classes and before the end of the first week of quarter classes. Drops made during the first two weeks of a semester course or the first week of a quarter course will not appear on a student's transcript. If students deem it necessary to reduce their program after the normal (*two week*) add/drop period, they should do so as early as possible. A mark of "WS" or "WU" is given by the instructor and recorded on the student transcript for a course dropped after the add-period of a semester or quarter course but before the midterm date. After the midterm date, any withdrawal from a course is recorded as an "F." If extenuating circumstances warrant other consideration, an appeal may be made to the instructor of the course. Students who register for a course but do not attend the class and do not officially withdraw are given a mark of "F." Students who do not attend the first class meeting of a course, or who do not notify the instructor or department chairperson that they will be absent for special reasons, may at the instructor's option, be dropped from the course if, and only if, other students are waiting to enroll at that time. Students should consult the current term "timetable" for the official drop dates.

Grade Point and Symbols

Grade	Grade Points
A	= 4.00
A-	= 3.67
B+	= 3.33
B	= 3.00
B-	= 2.67
C+	= 2.33
C	= 2.00
C-	= 1.67
D+	= 1.33
D	= 1.00
D-	= 0.67
F	= 0.00
O	= Outstanding (<i>no grade points</i>)
S	= Satisfactory (<i>no grade points</i>)
U	= Unsatisfactory (<i>no grade points</i>)
W	= Withdrawal from school before midterm or grade assigned by registrar for an improper drop
I	= Incomplete
CR	= Credit (<i>no grade points</i>)
F	= Fail
IP	= In Progress (<i>approved courses only</i>)
AU	= Audit - no credit awarded
NC	= No Credit
WS	= Withdrawal - Satisfactory Work
WU	= Withdrawal - Unsatisfactory Work

Accommodating Religious Beliefs

UW-Stout honors individuals' religious beliefs. If scheduling of tests or other mandatory activities interferes with students' religious observances, students may request alternative arrangements.

Within the first three weeks of class, students must notify their instructors if there will be days or dates when their religious activities will prevent them from participating in academic events. For summer sessions or short courses, students must notify their instructors within the first week of class.

The university accepts, at face value, the sincerity of students' religious beliefs. Information students provide about their religion will be kept confidential.

Once instructors know of students' needs, they will be able to schedule make-up examinations or other course requirements, before or after the regularly scheduled examination or other requirement.

If students believe their religious beliefs have not been accommodated, they may file a grievance. For more information about the policy or the grievance procedure, contact the Dean of Students Office at extension 1181.

Procedure for Withdrawal from UW-Stout

Withdrawal should be undertaken only after serious consideration. If you intend to withdraw from the university, you must contact the Registration and Records Office and complete a withdrawal form. If you fail to withdraw officially from the university, you will receive a grade of "F" in all your courses. Withdrawals after the midpoint of a term or course will generally result in "F" grades. (See the *grading policy* online at www.uwstout.edu/regrec/grades.html.)

Suspension and Probation

Grade point requirements for graduation vary by major. Minimum acceptable standards for retention are defined as follows:

1. First semester freshmen students will be placed on probation if they achieve a grade point average less than 1.8 at the end of the semester. They will be suspended if their grade point average is less than 1.0 for the semester.
2. Second semester freshmen will be placed on academic probation if their cumulative grade point average at the end of the semester is less than 1.9. They will be suspended if their grade point average is less than 1.0 for the semester.
3. Second semester sophomores or upper division students will be placed on academic probation if their cumulative grade point average at the end of the semester is less than 2.0. They will be suspended if their grade point average is less than 1.0 for the semester.
4. Students with two consecutive terms of probationary-level work will be dismissed unless they have a semester grade point average of 2.5 or better.

A student who has been declared academically ineligible to continue may request a hearing to appeal.

Requirements for Graduation

The semester credit hours required for graduation are stated under the program of study for each major. You are responsible for knowing and meeting the requirements for graduation. To fill the minimum residence requirement, you must earn the last 32 semester hours of credit (*64 grade points*) in residence at UW-Stout. One semester before graduation, you must file an Application for Degree card with the Registration and Records Office.

Graduating with Honors

Undergraduate honors are based upon scholarship. The following designations are used:

Cum Laude	3.5 – 3.699 grade point average
Magna Cum Laude	3.7 – 3.899 grade point average
Summa Cum Laude	3.9 – 4.00 grade point average

A minimum cumulative grade point average of 3.5 must have been earned in all credits from all institutions attended. For commencement purposes, the cumulative grade point average earned at the end of the semester preceding the commencement ceremony will determine recognition at the commencement ceremony. However, honors will be officially determined when all coursework has been completed. Honors will be listed in the student's transcript and will appear on the diploma.

Chancellor's Award

The Chancellor's Award recognizes undergraduate students who receive a semester grade point average of 3.5 or greater on 12 or more credits. A special Four Star Recognition Award will be given to undergraduate students who attain a 4.0 average.

Financial Information

Fee Payment

You are expected to pay all fees according to the procedure outlined in the Student Handbook. Failure to pay fees may result in suspension. UW-Stout offers an opportunity to pay fees in installments. This program requires a down payment plus any past due amount or total payment at registration, whichever is less. The balance is due in additional monthly installments.

All students are required to have a signed University of Wisconsin-Stout Payment Plan Agreement/Application on file with the Office of Student Business Services. All Wisconsin residents are also required to provide information on their marital status. The application form is online at www.uwstout.edu/stubus/payplanagree.html or can be picked up at 125 Administration Building.

Semester Costs

Undergraduate fees are set by the University of Wisconsin Board of Regents and are subject to change. These fees incorporate the usual student costs such as textbook rental, Student Center, student activity, technology, United Council, and health fees. However, the schedule does not include lab or material fees charged in some courses. Students in the e-Scholar program pay a per credit rate for tuition.

All tuition and fees, room and food rates, and other charges are subject to change without notice. Tuition and fee information is online at www.uwstout.edu/stubus.

Minnesota Students

If you are a Minnesota resident and a new student at UW-Stout, you must submit a reciprocity application to Minnesota. Approval takes up to four weeks. If approved for reciprocity, you will be charged at the Minnesota resident tuition rate. The State of Minnesota has indicated that "reciprocity benefits will not be granted retroactively" and that "each student is responsible for the application process." Therefore, each new student must submit a correct application before the last day of the semester. Apply early to avoid complications. Students that have been in attendance at UW-Stout and have earned credits during the previous academic year will automatically have reciprocity renewed by the State of Minnesota. Reciprocity applications are available online at www.mheso.state.mn.us.

Students Auditing Classes

Wisconsin residents may audit classes for 30 percent of the normal per credit academic fee. The cost for non-residents is 50 percent of the normal non-resident fee. Senior citizens age 60 or older by the first day of class only pay textbook and lab fees for audit credits.

Refund on Fees

Withdrawal from semester courses generates refunds based on the following schedule: first and second week of classes, 100 percent; third and fourth week, 50 percent. After the fourth week, no refunds will be made. Refunds for room and food service charges are based on the date of withdrawal.

Graduation Fee

When you complete 110 semester hours of credit, you will be billed \$35 for the graduation fee. This fee pays for the diploma cover and other costs and accessories that go with the commencement exercises. It does not cover the cost of the cap and gown. You will be assessed this fee whether or not you attend commencement exercises.

Unpaid Obligations

Failure to meet financial obligations is a serious matter. Therefore, if you owe money to the university and fail to meet that obligation, UW-Stout may suspend you. A hold will be placed on your account and you will not be allowed to register or receive transcripts until your delinquent accounts are brought up-to-date. This includes such items as library fines, assessments for damages in laboratories and residence halls, as well as tuition and fees. Collection costs will be assessed on any unpaid charges owed to the university.

Financial Aid

The Financial Aid Office provides resources to UW-Stout Students and their families who need assistance in paying for college costs. This assistance is in the form of grants, work programs and/or student loans.

The philosophy for all need-based financial aid programs is that students and their families are primarily responsible for financing their education. Families applying for financial aid need to submit a Free Application for Federal Student Aid (FAFSA), a "financial statement" listing their income, assets and liabilities. Established federal and state formulas are used to determine a reasonable contribution from the student and family. State and federal financial aid is intended to meet education costs above that reasonable contribution.

The Free Application for Federal Student Aid (FAFSA) must be applied for annually. The FAFSA is available online at www.fafsa.ed.gov. If you apply electronically, the student and parents may use a pin to electronically sign the FAFSA. A PIN is easily obtained online at www.pin.ed.gov. The Financial Aid Office recommends the FAFSA online, as it is easy to use and shortens application processing time. A paper version of the FAFSA is also available at high schools, any post secondary financial aid office or Stout will mail one to the family if requested.

The FAFSA may be submitted on or after January 1 of the academic year of enrollment. UW-Stout's recommended priority filing date is March 15 for a fall start date to ensure all aid programs are available.

UW-Stout's Federal School Code Number is **003915**. This number is required on the FAFSA if the results are designated for Stout. When the results of the FAFSA are received by Stout, the student and family may be asked for further information or clarification. Once the application process is complete, the student will receive an award letter to accept or decline the aid offered.

Financial aid is awarded based on need, enrollment status and aid program availability. Students must be enrolled in a degree program at UW-Stout and maintain satisfactory academic progress.

All available federal and state financial aid, except earnings from

work study, will be credited directly to student accounts at the beginning of each semester. All university charges will be deducted from aid funds prior to any refund to the student. Refunds will be automatically sent to the student's university identification card account or designated bank. Paper refund checks may be mailed to students if this method is preferred.

Additional information on available resources including scholarships, alternative loans and other aid is available online.

All financial aid awarded may be subject to change because of levels of state or federal funding or receipt of aid at prior post-secondary institutions or any new information including receipt of aid resources such as scholarships.

The Financial Aid Office has more complete information about the topics mentioned here at www.uwstout.edu/finaid.

Withdrawal Fee

You will be charged a fee of \$50 for a first-week withdrawal, and \$100 for any withdrawal during the second week.

Financial Aid Replacement and Refund Policy

Students on financial aid will not receive refunds until funds representing financial aid awards have been applied back to the respective financial aid programs. Be sure to check with Student Business Services to verify the impact of withdrawing and your responsibility for repayment of financial aid.

Undergraduate Scholarships

Merit-Based Freshman Scholarships More than \$35,000 is awarded annually to outstanding high school seniors through merit based freshman scholarships. All entering freshmen are considered for these scholarships. Selection is based solely on academic merit without regard for financial need. Recipients are notified shortly after acceptance to UW-Stout.

Scholarship: Wisconsin Academic Excellence Scholarship

Award: \$2,250

Criteria: Selected by high school

Scholarship: National Merit Finalist

Award: \$2,000

Criteria: Automatically awarded to NMSQT Finalist

Scholarship: National Merit Semifinalist

Award: \$1,000

Criteria: Automatically awarded to NMSQT Semifinalist

Scholarship: Chancellor's Academic Honor Scholarship

Award: \$1,000

Criteria: Automatically awarded to those with top 5 percent class rank, an ACT score of at least 25, or an SAT score of at least 1140.

Merit-based scholarships are not cumulative. Students who qualify for more than one scholarship will be awarded the scholarship of highest value.

Stout University Foundation Scholarships The Stout University Foundation awards approximately \$600,000 in scholarships for undergraduate and graduate students at UW-Stout. These scholarships are financed by the contributions of alumni, friends, parents, faculty, campus organizations, other UW-Stout staff, foundations and corporations.

No single factor will be responsible for an applicant receiving a scholarship. Factors which are considered include academic performance, teacher evaluation and comments, professional activities, extracurricular activities, community involvement, written statements, neatness and care in completing the application, and, in some cases, financial need.

The scholarship application form and deadlines are available online at www.uwstout.edu/foundation. Completed application forms must be submitted to the Stout University Foundation.

The Scholarship Committee reviews applications and makes awards in the spring. Recipients are notified by May 1. Recipients are required to write a letter of appreciation to the scholarship donors before payment is made for tuition. A formal award ceremony honors scholarship winners, donors, friends and family in September.

For additional information about scholarships, contact the Stout University Foundation, Louis Smith Tainter House, 715/232-1151.

Other Scholarship Opportunities By investing a little time and energy, you can conduct your own scholarship search. Scholarships are often provided by community agencies, corporations, clubs, cultural groups, foundations, churches and civic groups. While many are not based on financial need, you will usually have to meet some criteria to qualify for funding—academic achievement, community activities, leadership, ethnic or racial heritage, athletic ability, or other guidelines.

High school guidance counselors can supply a list of some of the scholarships available in your region. Reference librarians may also be able to help you identify sources. But there are other possible sources of funding for your education:

- Find out if your parents' employers, professional organizations or labor unions offer scholarships.
- Contact regional civic organizations and ask about scholarships. The Chamber of Commerce, Rotary Club, Lions Club or other groups may have scholarship funds available.
- Review library resources that list financial aid sources.
- Contact groups in your community, including churches, veterans, industries and major businesses.
- Check with your program director or the dean's office for the school your degree program is housed in for private scholarship information.
- Contact the national office of your student professional organization for scholarship opportunities.

Not all scholarships are for large amounts of money, but any scholarship can help offset the cost of an education. Free scholarship

Services for Students

Athletics

The intercollegiate athletic program emphasizes educational values for the participants and provides a laboratory for students in the coaching certification program. UW-Stout is a member of the Wisconsin Intercollegiate Athletic Conference (WIAC) and is affiliated with the National Collegiate Athletic Association-Division III. The university sponsors nine women's and seven men's varsity teams. Women's teams include basketball, cross country, golf, gymnastics, soccer, softball, tennis, track and field, and volleyball. Men's teams are baseball, basketball, cross country, football, golf, hockey, and track and field. More information is available online at www.uwstout.edu/athletics.

International Student Services

The special needs of international students are met through professional and referral services provided by the Office of International Education. These services include confidential personal counseling on immigration matters, financial problems, academic questions, social customs and personal concerns. Other services which promote cross-cultural understanding include new student orientation, International Relations Club activities, international week, and liaison activities in the university and Menomonic area community. More information is online at www.uwstout.edu/intlstu.

University Library

The University Library has a collection of more than a million items, including online full-text resources, audiovisual materials, periodicals, and books. Access is available to more than 35 million items through universal borrowing from other UW libraries.

The library provides wireless and Ethernet connections for laptop users and has specialized equipment for printing, scanning, and e-portfolio work. A variety of equipment is also available for checkout including laptop computers, multimedia projectors and digital cameras. More than 100 desktop computers are on hand in the Library. The library provides an inviting atmosphere for study and contemplation. A food cart is available in the lobby during the academic year. Lounge furniture, quiet study spaces and group study rooms are available throughout the library. The library is open 90.5 hours per week with adjusted open hours in the summer and at times when no classes are offered. Customer service oriented Library Staff is available to assist users in their quest for information. More information is available online at www.uwstout.edu/lib.

Off-Campus Housing

The Stout Student Association provides information about available off-campus housing at ssa.uwstout.edu/housing. Advertisements for off-campus housing may be found in The Stoutonia as well. If you plan to live off campus, you may find it useful to visit Menomonic to secure the type of housing you desire.

Residence Halls

Residence hall living is a meaningful part of your life at UW-Stout. With the help of a professionally trained staff, students achieve their goals through a variety of social, educational and recreational activities. Approximately 2,700 students live on campus. UW System policy requires freshmen and sophomores (*so credits or fewer who are not veterans, married or living with parents or guardian*) to live in university residence halls. This policy is strictly enforced. Residence hall information will be sent you shortly after being admitted. We require a \$125 prepayment with each lease/contract. The lease/contract is valid for the entire academic year.

UW-Stout offers a First Year Experience program where all freshmen live together in the South campus residence halls. Upperclass students live primarily on North campus, including our newly opened Red Cedar Hall, which is a suite-style building. Each suite consists of four bedrooms, a bathroom, and a living area and kitchenette. The building is fully air conditioned and has two elevators.

Each room is carpeted and furnished with a microwave oven, refrigerator, two single beds, dressers, bookcases, desks and chairs. Network access is available in all rooms. Cable TV is provided as well as local phone service — you must provide your own phone. Basements provide access to computers laboratories (*with printers and scanners*), laundry rooms, television areas, kitchens, study areas, game rooms and exercise rooms. The reception desks offer many services and a variety of equipment including tools, vacuum cleaners, cooking equipment, DVDs, and sports equipment.

More information, including current rates is available online at www.uwstout.edu/housing. Additional questions maybe directed to the University Housing office at 715/232-1121, or by e-mail at housing@uwstout.edu.

Students who live on campus during the academic year choose a dining service plan from a variety of options. Information about University Dining Services is online at www.uwstout.edu/dining.

Learning Technology Services

Learning Technology Services (LTS) is a comprehensive media service unit that supports the instructional, research and service needs of the UW-Stout community. The primary mission of LTS is to assist faculty, staff and administration in the development and use of a broad range of available learning technologies to support on and off-campus course delivery. This includes providing assistance in the creation, enhancement, and delivery of distance education courses.

A secondary mission is to offer these services in support of activities which, while not in direct support of instruction, are appropriate to the mission of UW-Stout. Media development services include audio, video, multimedia, animation, graphics, photography, media format conversions, satellite downloading, and digital imaging. Distance education services include audioconferencing, webconferencing, videoconferencing, webcasting, web-based instruction and online courses. Training services include media development, distance education, instructional design, and multimedia classrooms. LTS installs, maintains, and repairs classroom audiovisual equipment. LTS also designs, publishes and coordinates the university website.

More information is available online at www.uwstout.edu/lts.

Student Services

Student Services is a network of programs that provide services designed to meet student needs in academic success, career development and personal skill building. Contact the Office of the Dean of Students at 130 Bowman Hall or call 715/232-1181 for more information about any of these programs.

Advisement Center The Advisement Center is home to UW-Stout's First-Year Advisers and the following services: first-year advising, career exploration, change of major, exit interviews, new student orientation and registration, academic skills program, and the Youth Options Program.

In addition, the Advisement Center serves the undergraduate student population as a drop-in center for general academic assistance and career information. The center is open from 8:00 a.m. to 4:30 p.m., Monday through Friday. Appointments are appreciated, however walk-ins are welcome. For more information, call 715/232-1465, or visit 11 Bowman Hall, or online at www.uwstout.edu/advisement.

- **First-Year Advising** As part of UW-Stout's extended orientation for new students, first-year students are assigned an adviser who will work closely with them throughout their first year at the university. This adviser provides guidance in academic, career and transition issues that typically occur during the first year of college. Freshmen will meet with their first-year advisers multiple times during the school year; receive timely e-mails reminding them of important dates for adding/dropping classes, fee payments, Advisement Day, and Evaluation Week and learn about campus resources and policies. Freshmen transition to their academic program adviser at spring semester's Advisement Day.
- **Career Exploration Services** offers a collection of computerized and printed information on jobs, career outlook data, college catalogs and graduate school information. Students may take interest and personality assessments and review them with a counselor to assist in deciding career direction and goals. For more information, call 715/232-5306 or online at www.uwstout.edu/career.
- **New Student Orientation/Registration** aids students in their transition to the university and initial course registration. Programming includes advisement, course registration, academic expectations and an introduction to university resources, services, social and cultural opportunities. Parents are welcome and encouraged to attend parts of the registration/orientation programs. Each classification of new students (*first time freshmen, transfer student, and Youth Options participant*) has different programming options, dates and requirements. For more information, call 715/232-1465 or visit 11 Bowman Hall or www.uwstout.edu/orientation/registration.

Career Services offers a variety of career search services to students and alumni. Counselors can help you plan for future employment opportunities. Services include online registration, career conferences, campus recruitment, teacher fairs, workshops and one-on-one counseling. Employment assistance to graduates and co-ops are a major emphasis at UW-Stout. The office maintains statistical reports on the employment of graduates and cooperative education employment activities.

More information is available from the Career Services Office, 103 Administration Building, 715/232-1601 or online at www.uwstout.edu/careers.

The Counseling Center offers counseling (*for individuals, couples and groups*), educational programs and workshops, self-help resources, and consultation to the campus community — with a mission of contributing to the intellectual, emotional and relational health and development of students. All counseling records are kept strictly confidential and are not part of university records. For more information, stop by our office in 410 Bowman Hall, call us at 715/232-2468, or visit us online at www.uwstout.edu/counsel.

- **Testing Services** Psychological and educational testing services are also offered by the center, including mental health screening inventories, personality tests, UW placement tests, Praxis tests, CLEP exams, the Miller Analogies Test and technology certification exams. Learn more online at www.uwstout.edu/counsel/testing.
- **Alcohol and Other Drug Education Program** As part of the Counseling Center, the Alcohol and Other Drug Education Program (AODEP) helps people develop mature, responsible and legal alcohol and other drug behaviors and attitudes. The AODEP provides a variety of services related to alcohol and other drug prevention, intervention, assessment and counseling. Learn more online at www.uwstout.edu/aod.
- **Campus Violence Prevention Project (CVPP)** This project provides education and outreach on safe and healthy relationships, signs of abuse, and assists peers in helping someone they are concerned about. Advocacy services are available to men or women who experience dating violence, sexual assault, or stalking. Learn more online at www.uwstout.edu/cvpp.

Dean of Students Office Students who have questions about academic policies, behavior of other students and university conduct policies, student rights and responsibilities, support services, and adjusting to life at UW-Stout are invited to bring their questions and concerns to the Dean of Students Office. This office serves an ombudsman role, assisting students to find solutions to their concerns and to implement them. Appeals of academic dismissal and course drops, requests for exceptional withdrawals and reports of extended absences should be initiated in this office, as well. Parents, staff and faculty, and members of the public are invited to contact this office for information on campus policies, and to report student issues or incidents they feel should be brought to the attention of the campus.

For more information visit 130 Bowman Hall or online at www.uwstout.edu/stusrv/dean.shtml.

Disability Services Students who require assistance due to a disability should contact the Disability Services Office in a timely manner to assure that appropriate support and accommodations will be provided. Current documentation of your disability and of needed accommodations must be provided to be eligible for services.

Potential services offered include, but are not limited to, one-to-one academic monitoring, alternative testing, note taking assistance, arrangement for audio books, scheduling and priority registration assistance, sign language interpreter for classes, writing assistance, disability parking, and request for accessible on-campus housing. Staff members assist students in building self-advocacy skills with faculty and other staff, and provide referrals to appropriate campus and community resources.

For more information, call 715/232-2995 or visit 206 Bowman Hall or online at www.uwstout.edu/disability.

Educational Talent Search is a federally funded TRIO program. The program serves young people in grades 6-12, who may be from first generation and/or low-income families, to finish high school, enter post-secondary education and successfully graduate. In addition to counseling, participants receive information about college admission requirements, scholarships and various student financial aid programs. This early intervention program helps young people to better understand their educational opportunities and options. For more information, call 715/232-5010 or visit 13 Harvey Hall or online at www.uwstout.edu/ets.

Multicultural Student Services Multicultural Student Services provides programming and support to African-American, Native American, Latino and Southeast Asian students. The staff provides academic and personal advising and support, and information and assistance with scholarships. Several cultural organizations are available for multicultural and other interested students. Multicultural Student Services also functions as a multicultural resource across campus. For more information, call 715/232-1381 or visit 217 Bowman Hall or online at www.uwstout.edu/multicultural.

Student Support Services — ASPIRE ASPIRE is a federally funded TRIO academic support program that encourages college students to stay in school and graduate. Services are targeted toward first generation college students, limited income students, or students having a physical or learning disability.

ASPIRE programming provides courses, career and personal development activities for eligible students. The staff helps students monitor their academic progress and provide academic counseling and other services to help students achieve their academic and college goals.

For more information, call 715/232-2995 or visit 206 Bowman Hall or online at www.uwstout.edu/aspire.

Upward Bound is a federally funded program designed to help students develop skills and motivation required to succeed in education both in high school and beyond. Upward Bound assists students through academic advising, tutoring, admissions and financial aid activities, college visits, cultural and career activities, counseling and mentoring programs. Fifty students are involved in four Dunn county schools. Students served are 912th graders. Selected students take part in weekly tutoring, weekend meetings and an intensive six week summer program at UW-Stout.

For more information, call 715/232-3596 or visit 310 Bowman Hall.

Student Health Services

All registered UW-Stout students are eligible to receive care at the Student Health Services. The majority of the services are funded by the student health fee, which is included in the tuition and fee payment. Services offered are diagnosis and treatment of illnesses and injuries; diagnosis, medical treatment and collaborative care with counseling professionals for common mental health concerns; general, employment, travel and athletic physicals; preventative health screening; diagnosis and treatment for sexually transmitted infections; confidential HIV testing; laboratory testing; on site availability of common prescription medication and orthopedic supplies; immunizations/vaccines; tuberculin skin testing; and health education. Services are available during the academic year from 7:45 a.m. to 4:30 p.m., and during the WinTerM session from noon to 4:30 p.m., Monday–Friday. During the summer months, the clinic is closed; however, a health advice line, staffed by medical care personnel, is available.

If urgent care is needed during the hours that Student Health Services is closed, contact Red Cedar Medical Center at 715/235-9671 or Marshfield Clinic at 715/233-6400. All costs are the responsibility of the student.

Additional information about services, health insurance and other topics is available online at www.uwstout.edu/studenthealth.

Technology and Information Services

Computer hardware and software for student use are provided by Technology and Information Services.

Approximately 200 Macintosh and IBM-compatible personal computers with a variety of software are available to students in the Campus Computing Laboratory (CCL), located in 184 Micheels Hall. The software supports instructional use in other laboratories and classrooms across the campus. The CCL is generally open 7:30 a.m. to midnight with extended hours late in semesters. The CCL provides workshops early in the semester for students who want to learn how to use the computers and software.

Access is also provided to the Internet, library resources and electronic mail. Use of the computers is free, but there is a minimal charge for printing in the CCL. Students with their own personal computers and modems can take advantage of dial-up access to campus computing resources.

- **Telecommunications and Networking**, a unit of Technology and Information Services, provides the campus with voice, data and video networking support (*for distance education*). The unit also maintains and repairs campus computing equipment.

Textbooks

Textbooks and other required resources for your classes are available for loan at this service. Instructional Resources Service (IRS) is located on the west side, second floor, of the Robert S. Swanson Learning Center. Required resources may be checked out and are due the last day of the class. Resources are also available for purchase.

If you have any questions or need assistance, feel free to stop in or call 715/232-2492. Additional information is available online at www.uwstout.edu/lib/irs.

University Centers

University Centers are welcoming gathering places that encourage involvement, interaction and learning. Since you'll spend three quarters of your time outside of the classroom, extracurricular and co-curricular activities that contribute to intellectual, professional and personal growth can be a valuable partner to academics.

Memorial Student Center is a community center for members of the UW-Stout community — students, faculty, staff, administration, alumni and guests. It is a place to get to know and understand and appreciate one another. Join an organization to plan events for the campus or become a student staff member and gain work experience and knowledge. Our staff helps to make your experience a memorable one.

Memorial Student Center The Memorial Student Center is here for you to "Live, Learn, Lead! As the campus "community center," the Memorial Student Center is a welcoming gathering place for students, faculty, staff administration, alumni and guest to gather, study, dine, play and relax. It is a place to get to know and understand one another. Our staff is dedicated to making your out of classroom experience a valuable part of your education.

The Memorial Student Center includes staffed and self service dining areas, a service, copy and information center, billiards and bowling, the University Bookstore, conference/reservations office and plenty of hang out space. The hallways proudly display UW-Stout student artwork and flags representing the home countries of our international students. Involvement and Leadership office provides service learning, programming and leadership opportunities and is located on the lower level. Students gain valuable professional experience by working jobs offered year round.

We are conveniently located at 302 10th Avenue, a major crossroad of the campus. You are invited and encouraged to use the facility, services, programs and activities offered by the Memorial Student Center. For more information about our services, call 715-232-1431 or visit online at www.uwstout.edu/studentcenter.

The Involvement and Leadership Center, located in the Memorial Student Center, fosters a supportive environment that encourages and challenges students to become fully engaged in and enjoy campus life, to seek learning outside of the classroom and to prepare themselves as contributing citizens.

- **Student Organizations** You may choose from approximately 120 student organizations and a myriad of activities on campus, in areas as diverse as music, service, journalism, religion and politics. Student organizations help students continually develop their skills interests. A list of student organizations is online at www.uwstout.edu/student.
- **Stoutreach and ULEaD** provide significant learning experiences for students through meaningful service and leadership activities that benefit our community. Learn more online at www.uwstout.edu/studentcenter/getinvolved.

University Recreation is a great way for you to stay active, develop friendships and learn lifetime skills while attending UW-Stout. If you are into playing sports, rock climbing, strength training, kayaking and cardio classes, then look no further—University Recreation has it all. You can be active in the following programs:

- **Intramural Sports** will let you exercise your competitive spirit. Join a team or create your own and challenge the rest of the university in the sport you love most. Organized leagues with tournament play and officiating allows for an exciting athletic environment.
- **The Health and Fitness Center** offers a state-of-the-art facility along with group fitness classes taught by instructors. If you need a little motivation or guidance, our knowledgeable staff of personal trainers is always available to help out. A 25-meter swimming pool is available for recreational use. This is a chance to achieve peak physical fitness.
- **Stout Adventures** will take you to the backcountry, up high on a rock face, or down a scenic waterway. Discover your sense of adventure and explore the wilderness around you. Those who enjoy climbing can take advantage of two 30-foot indoor climbing walls. Memberships are available to all students. Stout Adventures also facilitates an outdoor Adventure Challenge Course which consists of two 50-foot towers and nine low initiatives designed to challenge groups or individuals.
- **The Underground** is a place to have fun and relax. The facility offers eight bowling lanes, four billiards tables, and lounging space to hang out between classes, shoot pool, or catch a game on the big screen television. You can also check out TNO, "Thursday Night Out," an alcohol-free alternative program.
- **Sport Clubs** are another great way to show your competitive spirit, with up to 26 clubs to choose from. These sport clubs have been formed by individuals who are motivated by a common interest and desire to participate in a recreational activity. Many clubs compete regionally and nationally.

If you are looking for student employment, University Recreation employs 120 students yearly from intramural sports officials and lifeguards, to group fitness instructors, and adventure challenge course facilitators. Learn more online at www.uwstout.edu/univrec or call 715/232-1392.

Veterans Service

The Registration and Records Office provides assistance to veterans. This office provides veteran students with current information on veteran's affairs, coordinates special educational programs for veterans, and maintains liaison with the Veterans Administration, Department of Veterans Affairs and the County Veterans Service Officers. All veterans receiving assistance must file the appropriate forms with this office to be officially certified to receive benefits.

For more information, contact Veterans Service, 109 Bowman Hall, 715/232-1233 or veteranstudents@uwstout.edu.

Teacher Education

Teacher Preparation Programs

Teacher preparation programs are housed in the School of Education. Students can prepare to become teachers in technical or community college settings or in PK-12 school settings. The School of Education is accredited by the Wisconsin Department of Public Instruction. The School of Education serves as a resource center for students, schools, and the general public. The dean of the School serves as the certification officer at the University of Wisconsin-Stout.

Information about the School of Education and specific teacher education programs, minors, and other subprograms can be found online at www.uwstout.edu/soe or by calling 715/232-1088.

Pre-education is the initial designation for students interested in becoming a licensed teacher in a PK-12 educational setting. The UW-Stout School of Education Assessment System is designed so that candidate progress is reviewed at various points called benchmarks. The benchmark level reviews include:

- Benchmark I: Acceptance into PK-12 Teacher Education Program;
- Benchmark II: Admission to Student Teaching;
- Benchmark III: Program Completion.

Certification

Licensing agencies make periodic changes in requirements that may necessitate program changes. It is the student's responsibility to make certain they have the most current information from their program director or faculty advisor. Certification requirements vary by state. Students contemplating teaching certifications in another state may wish to clarify the acceptance of their program at UW-Stout with the state in which they plan to teach.

Art Education
Career, Technical Education and Training
Early Childhood Education
Family and Consumer Sciences Education
Marketing and Business Education
Science Education
Special Education
Technology Education

Special Programs

Honors Program

The University Honors Program (UHP) offers academic and co-curricular opportunities for talented students to enhance their undergraduate education. Curriculum consists of four Honors Seminars and four Honors Options. In addition, students participate in biannual Honors Colloquia. Three of the four seminars replace general education requirements; the fourth is taken as an elective. Honors Options include study abroad, departmental seminars and honors contracts. Students design honors contracts with faculty mentors of their choosing in subjects they wish to examine more deeply. To complete UHP academic requirements, most students take one class they would not otherwise have to take. All UHP students receive academic advising from the Honors director and/or faculty advisers, in addition to help with scholarship applications and research funding proposals.

UHP co-curricular programming aims to help students connect learning and life. Part of the fourth floor of Antrim-Froggatt and Wigen Hall serve as the UHP living/learning floors." UHP students are not, however, required to live there, and scheduled programs are open to all UHP students. Speakers, cultural activities and occasional social gatherings round out the co-curricular offerings. Students also have the opportunity to participate in Honors Student Association activities and to serve on the UHP Advisory Committee.

The UHP invites applications from students who rank in the top 10 percent of their high school class, and those who score in the top 10 percent of UW-Stout's ACT scores. Other interested students are welcome to apply.

For further information, contact the UHP office at 715/232-1455 or visit online at www.uwstout.edu/programs/uhp.

The Co-op/Intern Program

Some degree programs require a co-op/intern experience, and it is a valuable option in many others. It provides an opportunity to work with professionals in your career area, before you graduate.

The program director approves an employer-provided job description before you begin the experience. You are awarded credit based on the length of the experience, the responsibilities given you, and the goals and objectives you carry into the job. Grades and credits are awarded by a university mentor.

A co-op or internship can be as short as one summer, or can last for a combination of semesters. For more information, contact Career Services, 103 Administration Building, 715/232-1601 or online at www.uwstout.edu/careers.

Field Experience Program

We encourage you to obtain part of your college education off the Menomonie campus through a field experience. This program allows you to receive academic credit for learning related to your major or minor, while employed in an approved off-campus field position. Field experience requirements vary by major. In some cases, a coop/intern position will satisfy this requirement. Most students use their summers to enroll in this program, but part-time work may also be permissible. For more information, contact your program director.

Industrial Work Experience

Students who have completed three years of skilled occupational experience beyond the learning level of a trade may earn a maximum of 24 semester hours of technical credit through examinations. Students with less experience may request examination in specific technical courses. If you wish to seek credit for skilled occupational experiences, present evidence of the required amount of work to the program director of Career, Technical Education and Training in the School of Education. Contact your program director to review your materials and examination.

Independent Study Program

The independent study program allows you to design a limited number of courses yourself, to meet your individual goals. You begin by picking up an Application for Independent Study from the office of the associate dean of the college that houses the type of course you want. You identify the course objectives, methods and evaluation process, and submit it to an independent study coordinator for processing and approval. You'll work with an assigned independent study coordinator who provides counsel and help. Independent study topics are different from existing courses. Be sure to ask your program director if your proposed independent study may be used in your degree program.

Summer Session

UW-Stout conducts a 10-week summer session with classes varying in length and delivery format. You may earn up to 10 credits during the 10 weeks of summer session. We encourage you to register for classes in April and May. Complete information about class schedules, enrollment procedures, degree programs and housing is available online at www.uwstout.edu/summer.

WinTerm

UW-Stout conducts a winter session between first and second semesters with credit-bearing classes varying in length and delivery format. Complete information about courses and enrollment procedures is available online at www.uwstout.edu/winterm.

Pigeon Lake

The UW System sponsors summer programs at the Pigeon Lake Field Station near Drummond in Bayfield County of northwestern Wisconsin. Station offerings include undergraduate and graduate courses in field biology, mapping, health and outdoor education, recreation, counseling, psychology and art. Class sessions vary from one to three weeks with some classes weekends only. Credit earned at the station is accepted as residence credit at UW-Stout. The field station is located in a natural outdoor laboratory among lakes, streams and forests. Information is available online at www.uwrf.edu/pigeonlake.

Outreach Services

UW-Stout has a tradition of providing educational outreach and continuing education opportunities on a local, regional, statewide and national basis as a commitment to the concept of lifelong learning. UW-Stout's Outreach Services unit assists academic units by coordinating off-campus credit and noncredit educational opportunities which include:

1. Off-campus courses based on campus priorities and UW-Stout's special mission within the UW System.
2. Teleconference courses offered via audio conference networks.
3. National satellite video conferences.
4. Statewide weekend college programs.
5. Interactive audio/video courses.
6. Degree completion programs.
7. National, regional and state conferences and other non-credit offerings.
8. Online credit and noncredit courses.
9. Support of regional economic development programs, projects and offerings in west central Wisconsin.
10. Management of value-added services provided to entities owning property and/or conducting business the Stout Technology Park.

Reserve Officers' Training Corps » ROTC

UW-Stout offers the Army Reserve Officers' Training Corps program. More information about the ROTC program is available online at www.uwstout.edu/admissions/rotc.

Study Abroad

The Office of International Education promotes globalization of the campus through its study abroad programming for UW-Stout students, recruitment and provision of services to international students, and assistance to faculty and staff in developing opportunities for study and research abroad. Students are encouraged to study abroad as part of their educational experience at UW-Stout.

Study abroad opportunities are offered worldwide in a variety of formats: long- or short-term programs, direct enroll or exchange programs, and study programs with UW-Stout and UW System instructional personnel. UW-Stout maintains agreements with other UW System campuses to allow for UW-Stout students to study abroad through their programming. Courses taken abroad can usually be used to meet graduation requirements at UW-Stout. Financial aid applies, and Wisconsin residents may qualify for international study grants to offset some of the cost of study abroad.

Additional information regarding study abroad programming and the Office of International Education is available online at www.uwstout.edu/intl or contact the Office of International Education, 400 Bowman Hall, 715/232-2132.

Graduate Studies

The Graduate School administers graduate admissions, records, policies and other procedures relating to graduate students. Graduate programs include:

Applied Psychology
 Career and Technical Education (*M.S. and Ed.S.*)
 Education
 Food and Nutritional Sciences
 Family Studies and Human Development
 Industrial/Technology Education
 Information and Communication Technologies
 Manufacturing Engineering
 Marriage and Family Therapy
 Mental Health Counseling
 Risk Control
 School Counseling
 School Psychology (*M.S.Ed. and Ed.S.*)
 Technology Management
 Training and Development
 Vocational Rehabilitation

Dual Undergraduate - Graduate Enrollment

Undergraduate UW-Stout students may apply for admission to a master's degree program, or enroll as a special student and take graduate courses, provided that a bachelor's degree will be awarded within one year and within 30 credits. The applicant must have a minimum grade point average of 2.75 on the undergraduate record on the date of enrollment. Dual level students may earn no more than nine graduate credits while under this status. They may enroll for no more than six graduate credits in a semester and no more than three graduate credits during the summer session. The applicant must submit a "Dual Level Enrollment Status Form" in addition to the other application materials, to the Graduate School. A student admitted as dual level who is not awarded the undergraduate degree at the end of the specified term, will be dropped from the Graduate School without loss of graduate credit. Upon subsequent receipt of the degree, the student may reapply for admission. Dual level students are governed by the Graduate Load Limit policy.

Glossary of Academic Terms

Academic Probation

A condition of attendance under which students are allowed to remain at the university with the understanding that they meet set academic standards within a set period of time. Failure to meet the standard results in dismissal from the university.

Add and Drop

The process of changing a course schedule by dropping or adding a course during the prescribed time at the beginning of each semester.

Adviser

Faculty or staff member who can provide information and assistance on academic concerns.

Audit

Students register and attend class, but do not take examinations. No credit hours are earned, and the cost of the class is less than regular tuition. "AU" will appear on the grade record.

Bachelor's Degree

The degree received after completing a specific program of undergraduate study and fulfilling all graduation requirements.

Certification

A recognition of professional achievement bestowed by an outside organization.

Class Standing

A measurement of achievement based on the number of credit hours earned. Students with 90 or more credits are seniors. Juniors have 60 or more credits, and sophomores have at least 30 credits.

College

An administrative division of the university housing academic departments, degree programs and other administrative units. At UW-Stout these are: Arts and Sciences; Human Development; and Technology, Engineering and Management.

College Parallel Program

A program of study offered at Wisconsin Technical Colleges and UW System Colleges in which the courses meet the requirements and standards of courses offered at the university.

Concentration

A component within a degree program that examines a selected area of the student's chosen professional field in greater detail. A concentration may be part of the university's planned offerings or designed by the student.

Cooperative Education

A learning approach that integrates college studies with working experiences in industry, business, government and public service. Under the plan, students leave campus for three to six months for the rigors and responsibilities of actual employment situations. The objective is to offer an additional option for learning and to give students a realistic education.

Credit Hour

A measure of academic work. One credit hour usually represents one hour of class time per week plus two hours of out of class study.

Credit Load

The number of credits a student registers for during a semester.

Degree Audit

A report that indicates the students' progress in meeting all of the requirements for a specific degree program.

Degree Program

A planned program of study leading to a bachelor's degree.

Degree-Seeking Student

A student who has been admitted to a degree program and is seeking a bachelor's or master's degree.

Disadvantaged

Deprived of basic social rights and security through poverty, discrimination, or other unfavorable circumstances.

Educationally Disadvantaged

Deprived of a socially adequate education through poverty, discrimination, or other unfavorable circumstances.

Elective

A course taken at the choice of the student. If the electives are in the general education component of a degree program, they must be general education courses.

Emphasis

A designated group of courses within a degree program that affords increased exposure to a specific area in the student's chosen professional field.

Ethnic Studies

Courses that satisfy the ethnic studies requirement, a part of the university's design for diversity initiative, and deal in some aspect with sensitivity to African American, Asian American, Hispanic and Native American cultures. Ethnic Studies courses are expected to discourage racism, thus reducing its effects, and promote appreciation of ethnic diversity as it is manifested in nonwhite groups.

Full Time Student

An undergraduate student who enrolls for at least 12 credits during the fall or spring semester, or one credit per week of study during the summer session.

General Education Requirement

A component of a degree program that provides a broad-based education with required course work in communication skills, analytic reasoning, health and physical education, humanities and the arts, social and behavioral sciences, natural sciences, and technology.

Good Standing

Maintaining an academic record that meets UW-Stout's requirements; eligible to continue at or return to the university, or to transfer to another institution.

Grade Point

The numerical value given to letter grades, based on an "A" receiving four points, a "B" three points, and so on.

Grade Point Average (GPA)

The numerical value assigned to a student's scholastic average, computed by dividing the total grade points by the total credit hours attempted.

Grant

Financial assistance that does not have to be repaid.

Hold

A barrier placed on a student's ability to register for classes as a result of unpaid monetary obligation or other action by the university.

Incomplete

The grade assigned only if a student is temporarily unable to complete course requirements because of unusual circumstances.

Independent Study

A course of study designed by a student and undertaken outside the classroom, under the supervision of one or more faculty.

Interdisciplinary

Drawing on two or more disciplines in a single course or program.

Internship

Work in a company or agency related to a student's degree program and career plans, usually for academic credit and often also for payment.

Major

A planned program of study leading to a bachelor's degree. Term is often used interchangeably with degree program.

Major studies

A component within a degree program that provides fundamental education for a particular career discipline.

Minor

A sequence of related courses consisting of 15 or more semester hours of credit.

Practicum

Directed work experience related to a program of study.

Prerequisite

A course or experience that must be successfully completed before enrollment in a designated course.

Professional Development Certificate

An alternative academic credential for individuals seeking to obtain new knowledge and skills or to update their knowledge and skills in a specific area.

Professional Electives

Required credits that are not prescribed by the program by designation of a specific course, but that are professional and specific in their content as they pertain to the major.

Program Director

The program director is responsible, with the advisement of the program committee, for the total curriculum of the major program and aids students in meeting all requirement for that program.

Readmission

An appeal procedure for students who have been dismissed or suspended, administered by the Dean of Students.

Re-Entry

An enrollment procedure followed by students who were previously enrolled in good standing at UW-Stout but whose attendance was interrupted for two or more consecutive semesters.

Registration

The process of enrolling in and paying for courses each semester.

Selectives

A group of courses from which a student must choose a prescribed number of credits to meet a program requirement.

Semester

A unit of time, generally 16 weeks long, in the academic calendar.

Specialization

A specialization is a program of study, with carefully constructed learning experiences, defined outcomes, and specified evaluation procedures. Students may enroll in the specialization as a stand-alone program or in addition to their undergraduate or graduate major.

Suspension

To be excluded from the university as a penalty for failure to meet academic or behavioral standards.

Teaching Major/Minor

A state-approved program for teacher certification for teaching at the secondary and/or elementary level.

Transcript

A copy of a student's permanent academic record.

Transfer Credit

Academic credit earned at another accredited institution and accepted toward a UW-Stout degree.

Tuition

The amount of money that must be paid for a course.

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Apparel Design and Development

Introduction

The Apparel Design and Development program prepares students for careers in the apparel and fashion-related industries as team members who understand the whole of the apparel pipeline. Graduates of Stout's program hold careers in apparel product design and development, apparel product management, and apparel quality assurance.

Apparel design courses integrate consumer needs and desires with aesthetics and technology as they address societal and ethical issues. The technical courses are supported by state-of-the-art laboratories. Yearly, the program has credit-producing learning experiences traveling to New York City and other apparel and fashion centers. A semester of study at the American College in London is available to program students.

The Apparel Design and Development program is one of only 13 programs of its kind in North America that has affiliation status with the American Apparel and Footwear Association.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	61-62 credits
Concentrations	15 credits
Electives	5-6 credits

Students are required to take 61 or 62 business and professional core credits and select one or more of the three 15-credit concentrations:

1. Apparel Design
2. Apparel Product Management
3. Apparel Development

Course grades of "C" or higher are required in the Professional Core and the concentrations.

Program Requirements

General Education

42 credits required

A. Communication Skills

8 credits

ENGL-101	Freshman English – Composition <i>or</i>	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing <i>or</i>	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning

6 credits

Courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education

2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 credits

ECON-210	Principles of Economics I (<i>recommended</i>)	3
<i>Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.</i>		

F. Natural Sciences (with Lab)

4 credits

G. Technology

2 credits

H. General Education Electives

2 credits

Courses must be from categories A, B, D, E and F.

Major Studies

61-62 credits required

Professional Core

44 credits required

APRL-101	Introduction to Apparel Design and Development	3
APRL-140	Textiles	3
APRL-166	Apparel Construction	3
APRL-180	Pattern Development	3
APRL-202	Quality of Sewn Products	3
APRL-250	Textile Evaluation	3
APRL-274	Fashion Industry	3
APRL-355	Special Topics in Apparel Design and Development (<i>four credits required</i>)	1-3
APRL 370	Portfolio Development	3
APRL-375	Technical Design Development	3
APRL-381	Functional Clothing Design	3
APRL-382	Advance Pattern Development	3
APRL-394	Knit Design and Technology	3
APRL-398	Field Experience <i>or</i>	
APRL-X49	Cooperative Education	1
APRL-474	Apparel Production	3

Business Core

17-18 credits required

BUINB-260	Introduction to International Business	<i>or</i>	
BUINB-367	International Management	.....	3
BUINB-485	International Marketing	<i>or</i>	
BUMKG-330	Principles of Marketing	.....	3
BUMKG-479	Marketing Research	<i>or</i>	
PSYC-370	Interpersonal Effectiveness	.....	2-3
BURTL-227	Basic Merchandising	.....	3
BURTL-319	International Economic Trends in Textiles and Clothing	.....	3
INMGT-400	Organizational Leadership	.....	3

Concentrations

15 credits required

Apparel Design

APRL-185	Apparel Line Development	.....	3
APRL-211	History of Fashion	.....	3
APRL-286	CAD for Apparel	.....	3
APRL-485	Apparel Design Studio	.....	3
BURTL-417	Social-Psychological Aspects of Clothing	.....	3

Apparel Development

APRL-185	Line Development	.....	3
APRL-286	CAD for Apparel	.....	3
BUACT-206	Introduction to Financial Accounting	.....	3
BUMIS-333	Management Information Systems	<i>or</i>	
APRL-485	Apparel Design Studio	.....	3
ENGL-415	Technical Writing	.....	3

Apparel Product Management

BUACT-206	Introduction to Financial Accounting	.....	3
BUMIS-333	MIS Decision Support Systems	.....	3
ENGL-415	Technical Writing	.....	3
INMGT-120	Quality Concepts	.....	3

Select one of the following courses:

BUMGT-304	Principles of Management	.....	3
BUMKG-438	Industrial Distribution	.....	3
ECON-480	International Economics	.....	3
POLS-340	International Relations	.....	3

Electives

5-6 credits required

Applied Mathematics and Computer Science

Introduction

The role of mathematics in our highly scientific-technological society is basic and essential. Mathematical thought and modeling are valued tools in our sophisticated industrial community. The application of mathematics to industry and business to meet society's need is increasing. This growth and demand continues to create a need for graduates with training in Applied Mathematics and Computer Science.

The Applied Mathematics and Computer Science program prepares graduates for careers in a variety of fields by providing a foundation in mathematics, computer science, and statistics, complemented with additional courses specified by the selected concentration. Students may choose a concentration in Actuarial Science, Bioinformatics, Business Management, Information Assurance and Cyber Security, Software Development, or students may tailor their coursework to provide knowledge that will prepare them for a career path of their choice.

Students will enhance their studies and gain significant hands on experience through a capstone course or cooperative education experience. On campus, there are also opportunities in undergraduate research, tutoring, and other technical openings to enrich the educational experience.

In addition to fulfilling the university's basic admissions requirements, Applied Mathematics and Computer Science applicants must also graduate in the top 50 percent of their class, or for high schools that do not rank, have a cumulative grade point average of at least 3.00 on a 4.0 scale and have a minimum ACT composite score of 22 (SAT *Math* 510).

In fulfilling the necessary competencies for a degree, a student may complete the requirements for a minor in Business Administration, Economics, or Technical Writing. It is the student's responsibility to obtain approval for the minor from the department offering it.

Program Requirements for the program without a Concentration

Total for Graduation	120 credits
General Education	41-42 credits
Major Studies	78-79 credits

Program Requirements

General Education

41-42 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning **7-8 credits**

CS-144	Computer Science I	3
MATH-153	Calculus I or	
MATH-156	Calculus and Analytic Geometry I	4-5

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

Courses must be from three areas including creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences **9 credits**

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **4 credits**

G. Technology **2 credits**

Major Studies

78-79 credits required

Mathematics, Statistics and Computer Science Foundation

32-33 credits

CS-145	Computer Science II	3
CS-244	Data Structures	4
MATH-154	Calculus II or	
MATH-157	Calculus and Analytic Geometry II	4-5
MATH-158	Calculus III	3
MATH-180	Foundations of the Language of Mathematics	4
MATH-275	Linear Algebra	3
MATH-370	Modern Algebra I	3
MATH-450	Real Analysis I	3
MSCS-449	Applied Mathematics: Co-op Education Internship	2
STAT-331	Probability and Mathematical Statistics I	3

Selective Courses

45 credits

The proposed program plan must be approved by the program director at least four semesters prior to graduation. The plan must indicate career path and courses that support that career. The plan may include a minor or a second major.

Professional Investigation/Exposure

Students must attend at least one professional event per semester for two years. See adviser.

Program Requirements for the Actuarial Science Concentration

Total for Graduation	120 credits
General Education	41-42 credits
Major Studies	77-78 credits

Program Requirements

General Education

41-42 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English – Composition <i>or</i>	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing <i>or</i>	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech.....	2

B. Analytic Reasoning **7-8 credits**

CS-144	Computer Science I	3
MATH-153	Calculus I <i>or</i>	
MATH-156	Calculus and Analytic Geometry I	4-5

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

Courses must be from three areas including creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences **9 credits**

ECON-210	Principles of Economics	3
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Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **4 credits**

G. Technology **2 credits**

Major Studies

78-79 credits required

Required Mathematics/Statistics **34-35 credits**

MATH-154	Calculus II <i>or</i>	
MATH-15	Calculus and Analytic Geometry II	4-5
MATH-158	Calculus III	3
MATH-180	Foundations of the Language of Mathematics	4
MATH-255	Differential Equations	3
MATH-275	Linear Algebra	3
MATH-370	Modern Algebra I	3
MATH-450	Real Analysis I	3
MSCS-449	Applied Mathematics: Co-op Education Internship.....	2
STAT-331	Probability and Mathematical Statistics I	3
STAT-332	Probability and Mathematical Statistics II	3
STAT-440	Advanced Linear Modeling-Regression and Time Series Analysis	3

Required Related Fields **16 credits**

CS-145	Computer Science II	3
CS-244	Data Structures	4
ECON-215	Principals of Economics II	3
ENGL-320	Business Writing <i>or</i>	
ENGL-415	Technical Writing	3
MSCS-446	Numerical Analysis I	3

Selective Courses **27 credits**

Remaining courses are chosen from a list of actuarial science selectives provided by the program director.

Professional Investigation/Exposure

Students must attend at least one professional event per semester for two years. See adviser.

Program Requirements for the Bioinformatics Concentration

Total for Graduation	120 credits
General Education	42- 43 credits
Major Studies	76-77 credits

Program Requirements

General Education

42-43 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech.....	2

B. Analytic Reasoning **7-8 credits**

CS-144	Computer Science I	3
MATH-153	Calculus I or	
MATH-156	Calculus and Analytic Geometry I	4-5

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

Courses must be from three areas including creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences **9 credits**

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **5 credits**

CHEM-135	College Chemistry I	5
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G. Technology **2 credits**

BIO-210	Concepts and Issues in Biotechnology	2
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Major Studies

77-78 credits required

Mathematics, Statistics and Computer Science Foundation **38-39 credits**

MSCS-2XX	Introductory Bioinformatics	2
CS-145	Computer Science II	3
CS-244	Data Structures	4
CS-248	Web and Internet Programming	3
CS-443	Database Systems Manipulation and Design	3
MATH-154	Calculus II or	
MATH-157	Calculus and Analytic Geometry II	4-5
MATH-158	Calculus III	3
MATH-180	Foundations of the Language of Mathematics	4
MATH-275	Linear Algebra	3
MSCS-492	Math and Computational Foundations of Bioinformatics	3
STAT-331	Probability and Mathematical Statistics I	3
STAT-332	Probability and Mathematical Statistics II	3

Required Science **23 credits**

BIO-136	College Molecular Cell Biology I	5
BIO-235	Molecular Cell Biology II	4
BIO-370	Biotechnology	3
BIO-493	Bioinformatics Practicum	3
CHEM-201	Organic Chemistry I	4
CHEM-311	Biochemistry	4

Selective Courses **15 credits**

Remaining courses are chosen from a list of bioinformatics selectives provided by the program director.

Professional Investigation/Exposure

Students must attend at least one professional event per semester for two years. See adviser.

Program Requirements for the Business Management Concentration

Total for Graduation	120 credits
General Education	41-42 credits
Major Studies	77-78 credits

Program Requirements

General Education

41-42 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech.....	2

B. Analytic Reasoning **7-8 credits**

CS-144	Computer Science I	3
MATH-153	Calculus I or	
MATH-156	Calculus and Analytic Geometry I	4-5

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

Courses must be from three areas including creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences **9 credits**

ECON-210	Principles of Economics I	3
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Remaining courses must be from two or more areas including anthropology, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **4 credits**

G. Technology **2 credits**

Major Studies

78-79 credits required

Mathematics, Statistics, and Computer Science Foundation **38-39 credits**

CS-145	Computer Science I	3
CS-244	Data Structures	4
MATH-154	Calculus II or	
MATH-157	Calculus and Analytic Geometry II	4-5
MATH-158	Calculus III	3
MATH-180	Foundation of Language of Mathematics	4
MATH-275	Linear Algebra	3
MATH-370	Modern Algebra I	3
MATH-450	Real Analysis I	3
MSCS-446	Numerical Analysis I	3
MSCS-449	Applied Mathematics: Co-op Education Internship.....	2
STAT-331	Probability and Mathematical Statistics I	3
STAT-332	Probability and Mathematical Statistics II.....	3

Required Business and Related Courses **21 credits**

BUACT-206	Introduction to Financial Accounting	3
BUACT-207	Introduction to Corporate and Managerial Accounting	3
BUACT-340	Business Finance	3
BUMGT-304	Principles of Management	3
BUMKG-330	Principles of Marketing	3
ECON-215	Principles of Economics II.....	3
ENGL-320	Business Writing or	
ENGL-415	Technical Writing	3

Selective Courses **18 credits**

Remaining courses are chosen from a list of business management selectives provided by the program director.

Professional Investigation/Exposure

Students must attend at least one professional event per semester for two years. See advisor.

Program Requirements for the Information Assurance and Cyber Security Concentration

Total for Graduation	120 credits
General Education	42 credits
Major Studies	78 credits

Program Requirements

General Education

42 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning **8 credits**

CS-144	Computer Science I	3
MATH-156	Calculus and Analytic Geometry I	5

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

Courses must be from three areas including creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences **9 credits**

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **4 credits**

G. Technology **2 credits**

Major Studies

78 credits required

Computer Science/Network Foundation **36 credits**

CS-145	Computer Science II	3
CS-244	Data Structures	4
CS-245	Introduction to Computer Organization	3
CS-248	Web and Internet Programming	3
CS-441	Computer Architecture	3
CS-442	Systems Programming	3
CS-443	Database Systems Manipulation and Design	3
CS-480	Introduction to Computer Security	3
ITM-133	Networking Fundamentals I	3
ITM-134	Networking Fundamentals II	3
ITM-383	Introduction to Network Security	3
MSCS-449	Applied Mathematics: Co-op Education Internship	2

Required Mathematics and Statistics **30-33 credits**

MATH-157	Calculus and Analytic Geometry II	5
MATH-158	Calculus III	3
MATH-180	Foundation of the Language of Mathematics	4
MATH-275	Linear Algebra	3
MATH-370	Modern Algebra I	3
MATH-371	Modern Algebra II	3
MATH-380	Cryptography	3
MATH-450	Real Analysis I	3
STAT-330	Probability and Mathematical Statistics for Engineering and the Sciences or	
STAT-331	Probability and Mathematical Statistics I and	
STAT-332	Probability and Mathematical Statistics II	3-6

Other Required Credits **9-12 credits**

ENGL-415	Technical Writing	3
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Remaining courses are chosen from a list of information assurance and cyber security selectives provided by the program director.

Professional Investigation/Exposure

Students must attend at least one professional event per semester for two years. See adviser.

Program Requirements for the Software Development Concentration

Total for Graduation	120 credits
General Education	41-42 credits
Major Studies	77-78 credits

Program Requirements

General Education

41-42 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech.....	2

B. Analytic Reasoning **7-8 credits**

CS-144	Computer Science I.....	3
MATH-153	Calculus I or	
MATH-156	Calculus and Analytic Geometry I	4-5

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

Courses must be from three areas including creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences **9 credits**

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **4 credits**

G. Technology **2 credits**

Major Studies

78-79 credits required

Required Computer Science **30 credits**

CS-145	Computer Science II.....	3
CS-244	Data Structures	4
CS-245	Introduction to Computer Organization	3
CS-441	Computer Architecture.....	3
CS-442	Systems Programming.....	3
CS-443	Database Systems Manipulation and Design	3
CS-448	Software Engineering.....	3
CS-458	Advanced Software Engineering	3
MSCS-390	Algorithms and Artificial Intelligence	3
MSCS-449	Applied Mathematics: Co-op Education Internship.....	2

Required Mathematics and Statistics **26-30 credits**

MATH-154	Calculus II or	
MATH-157	Calculus and Analytic Geometry II	4-5
MATH-158	Calculus III	3
MATH-180	Foundation of the Language of Mathematics.....	4
MATH-275	Linear Algebra	3
MATH-370	Modern Algebra I.....	3
MATH-450	Real Analysis I	3
MSCS-446	Numerical Analysis I.....	3
STAT-330	Probability and Mathematical Statistics for Engineering and the Sciences or	
STAT-331	Probability and Mathematical Statistics I and	
STAT-332	Probability and Mathematical Statistics II.....	3-6

Selective Courses **18-21 credits**

ENGL-415	Technical Writing	3
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Remaining courses are chosen from a list of software development selectives provided by the program director.

Professional Investigation/Exposure

Students must attend at least one professional event per semester for two years. See adviser.

Applied Science

Introduction

The Applied Science program offers a unique educational experience for students to learn science by doing science. The program emphasizes flexibility through a broad scientific base along with experience through a chosen career emphasis. In a world of new products and processes, the program also fosters the creativity needed to contribute to new scientific advances. Our program prepares graduates for a variety of expanding careers in biotechnology, nanotechnology, health sciences, materials science and science education. The strong academic content of the Applied Science program will also prepare graduates for entry into a variety of professional (such as chiropractic, dental, medical, optometry, pharmacy, physical therapy or veterinary) and graduate schools.

The curriculum is based on a core of chemistry, physics, biology and mathematics. Students will explore cutting edge topics in nanotechnology and biotechnology in addition to the many facets of applied science, including technical writing, data analysis, interpersonal communication and experiment design. Principles in management, marketing, manufacturing, and finance are introduced.

In addition to working with instructors from a broad range of

fields, students gain significant hands-on experience through a field or cooperative education experience. This versatility offers the qualities that employers are looking for in today's college graduates — interpersonal and problem-solving skills, high energy level and good judgment.

Our graduates are able to enter a myriad of occupations and career paths after graduation. Some of our graduates have chosen to enter the work force directly by becoming scientific sales representatives or laboratory technicians. Many of our graduates have continued with their passion in science and have chosen graduate schools in fields ranging from marine microbiology to bio-nano chemistry, while other graduates have entered dental or pharmacy schools.

In addition to fulfilling the university's basic admission requirements, Applied Science applicants must also have an ACT math score of at least 22 (SAT *math* 510) and either rank in the upper 40 percent of your high school class (or GPA of 3.0), or have a composite ACT score of 22. Nontraditional or transfer student admission will be based on current admission standards with guidance from the program director.

Program Requirements for the Interdisciplinary Science Concentration

Total for Graduation	120 credits
General Education	42-43 credits
Major Studies	77-78 credits

General Education

42-43 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning **7-8 credits**

MATH-153	Calculus I or	
MATH-156	Calculus and Analytic Geometry I	4-5
STAT-320	Statistical Methods or	
STAT-330	Probability and Statistics for Engineering and the Sciences.....	3

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

PHIL-235	General Ethics	3
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Remaining courses must be from two or more areas including creative arts, history, literature, music appreciation, and performing arts.

E. Social and Behavioral Sciences **9 credits**

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **5 credits**

CHEM-135	College Chemistry I	5
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G. Technology **2 credits**

Major Studies

77-78 credits required

Required Courses **43 credits**

APSC-101	Applied Science Profession I	1
APSC-311	Issues for Science Professionals	3
APSC-349	Cooperative Education Program in Applied Science or	
APSC-398	Field Experience in Applied Science	1-8
APSC-401	Applied Science Profession II	1
BIO-135	Organismal Biology	4
BIO-136	College Molecular Cell Biology I	5
CHEM-136	College Chemistry II	5
CHEM-201	Organic Chemistry I	4
CHEM-331	Quantitative Analysis	3
CHEM-335	Instrumental Methods of Analysis	3
ENGL-415	Technical Writing	3
PHYS-241	College Physics I or	
PHYS-281	University Physics I	5
PHYS-242	College Physics II or	
PHYS-282	University Physics II	5

Selectives **14 credits**

Choose any 200 level or higher science-related courses approved by your program director to fulfill the 120 credit graduation requirement.

Minor or Second Major **18-35 credits**

Choose a minor that is not Chemistry, Biology, or Physics. Students should work with a minor adviser to complete requirements. In lieu of a minor, students may apply credits from a completed second major. Students must work with both program directors to meet requirements for each major and recognize that completion of two majors will exceed 120 credits.

Program Requirements for the Biotechnology Concentration

Total for Graduation	120 credits
General Education	42-43 credits
Major Studies	77-78 credits

General Education

42-43 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning **7-8 credits**

MATH-153	Calculus I or	
MATH-156	Calculus and Analytic Geometry I	4-5
STAT-320	Statistical Methods or	
STAT-330	Probability and Statistics for Engineering and the Sciences	3

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

PHIL-235	General Ethics	3
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Remaining courses must be from two or more areas including creative arts, history, literature, music appreciation, and performing arts.

E. Social and Behavioral Sciences **9 credits**

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **5 credits**

CHEM-135	College Chemistry I	5
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G. Technology **2 credits**

Major Studies

77-78 credits required

Required Courses **65-69 credits**

APSC-101	Applied Science Profession I	1
APSC-311	Issues for Science Professionals	3
APSC-349	Cooperative Education Program in Applied Science or	
APSC-398	Field Experience in Applied Science	1-8
APSC-401	Applied Science Profession II	1
BIO-135	Organismal Biology	4
BIO-136	College Molecular Cell Biology I	5
BIO-235	Molecular Cell Biology II	4
BIO-370	Biotechnology	3
BIO-400	Special Topics in Biotechnology	1-2
BIO-470	Advanced Biotechnology	5
BIO-489	Advanced Biology Experience	1-4
CHEM-136	College Chemistry II	5
CHEM-201	Organic Chemistry I	4
CHEM-204	Organic Chemistry II Lecture	3
CHEM-206	Organic Chemistry II Laboratory	1
CHEM-311	Biochemistry	4
CHEM-331	Quantitative Analysis	3
CHEM-412	Advanced Biochemistry	3
ENGL-415	Technical Writing	3
PHYS-241	College Physics I or	
PHYS-281	University Physics I	5
PHYS-242	College Physics II or	
PHYS-282	University Physics II	5

Selective Courses **8-13 credits**

Choose selectives that are 200 level or higher biotechnology-related courses approved by your adviser to fulfill the 120 credit graduation requirement.

Program Requirements for the Environmental Science Concentration

Total for Graduation	120 credits
General Education	42-43 credits
Major Studies	77-78 credits

General Education

42-43 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning **7-8 credits**

MATH-153	Calculus I or	
MATH-156	Calculus and Analytic Geometry I	4-5
STAT-320	Statistical Methods or	
STAT-330	Probability and Statistics for Engineering and the Sciences.....	3

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

PHIL-235	General Ethics	3
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Remaining courses must be from two or more areas including creative arts, history, literature, music appreciation, and performing arts.

E. Social and Behavioral Sciences **9 credits**

GEOG-251	Introduction to Geography and Geographic Information Systems.....	4
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Remaining courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **5 credits**

CHEM-135	College Chemistry I	5
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G. Technology **2 credits**

Major Studies

77-78 credits required

Environmental Science Course Requirements **54 credits**

APSC-101	Applied Science Profession I	1
APSC-311	Issues for Science Professionals	3
APSC-349	Cooperative Education Program in Applied Science or	
APSC-398	Field Experience in Applied Science	1-8
APSC-401	Applied Science Profession II	1
BIO-111	Science, Society and the Environment or.....	
BIO-141	Plants and People	4
BIO-135	Organismal Biology	4
BIO-136	College Molecular Cell Biology I	5
BIO-350	Ecology	3
BIO-351	Ecology Lab	2
BIO-444	Problem Solving in Environment Studies	3
CHEM-136	College Chemistry II	5
CHEM-201	Organic Chemistry I	4
ENGL-415	Technical Writing	3
GEOG-351	Intermediate Geographic Information Systems	4
PHYS-258	Introductory Geology	2
PHYS-241	College Physics I or	
PHYS-281	University Physics I	5
PHYS-XXX	Soil Conservation	4

Environmental Science Technical Emphasis **13-15 credits**

Choose one of the following emphasis areas:

Water Resources (13 credits)

BIO-306	General Microbiology	4
CHEM-331	Quantitative Analysis	3
CHEM-335	Instrumental Methods of Analysis	3
CHEM-353	Environmental Chemistry	3

Plant Sciences (14 credits)

BIO-242	Botany	4
BIO-322	Plant Pathology	3
BIO-343	Plant Physiology	4
CHEM-331	Quantitative Analysis	3

Land Resources (15 credits)

BIO-242	Botany	4
BIO-324	Plant Taxonomy	3
BIO-352	Plant Ecology	4
GEOG-451	Advanced Geographic Information Systems	4

Selective Courses **xx-xx credits**

Choose selective courses that are 200 level or higher in biology, chemistry or physics and approved by your adviser to fulfill the 120 credit graduation requirement.

Program Requirements for the Materials Science Concentration

Total for Graduation	121-125 credits
General Education	43-45 credits
Major Studies	78-80 credits

General Education

43-45 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English – Composition <i>or</i>	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing <i>or</i>	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning **8-10 credits**

MATH-153	Calculus I <i>or</i>	
MATH-156	Calculus and Analytic Geometry I	4-5
MATH-154	Calculus II <i>or</i>	
MATH-157	Calculus and Analytic Geometry II.	4-5

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

PHIL-235	General Ethics	3
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Remaining courses must be from two or more areas including creative arts, history, literature, music appreciation, and performing arts.

E. Social and Behavioral Sciences **9 credits**

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **5 credits**

CHEM-135	College Chemistry I	5
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G. Technology **2 credits**

Major Studies

78-80 credits required

Required Courses **68 credits**

APSC-101	Applied Science Profession I	1
APSC-311	Issues for Science Professionals.	3
APSC-349	Cooperative Education Program in Applied Science <i>or</i>	
APSC-398	Field Experience in Applied Science.	1-8
APSC-401	Applied Science Profession II	1
CHEM-136	College Chemistry II	5
CHEM-201	Organic Chemistry I.....	4
CHEM-301	Physical Chemistry Lecture.	3
CHEM-303	Physical Chemistry Laboratory.....	1
CHEM-325	Chemistry of Polymers.	4
CHEM-341	Chemistry of Materials.....	4
CHEM-440	Advanced Materials Laboratory.....	3
CHEM-470	Chemistry of Materials II.....	3
ELEC-290	Circuits and Devices.	4
ENGL-415	Technical Writing	3
MATH-250	Differential Equations with Linear Algebra <i>or</i>	
MATH-255	Differential Equations	3
MFGT-110	Materials and Manufacturing Processes <i>or</i>	
MFGT-150	Introduction to Engineering Materials.	3
MFGT-251	Polymer and Composite Processes <i>or</i>	
MFGT-253	Joining and Casting Processes.....	3
PHYS-281	University Physics I.....	5
PHYS-282	University Physics II.....	5
PHYS-325	Strength of Materials.	3
PHYS-327	Solid State Physics.....	3
STAT-330	Probability and Statistics for Engineering and the Sciences.....	3

Selective Courses **10-12 credits**

Choose 3 of the following 4 selective courses:

BIO-136	College Molecular Cell Biology I	5
BIO-235	Molecular Cell Biology II.....	4
CHEM-331	Quantitative Analysis.	3
CHEM-335	Instrumental Methods of Analysis	3

Program Requirements for the Nanoscience Concentration

Total for Graduation	120-122 credits
General Education	43-45 credits
Major Studies	77 credits

Program Requirements

General Education

43-45 credits required

A. Communication Skills	8 credits
ENGL-101 Freshman English – Composition <i>or</i>	
ENGL-111 Freshman English – Honors	3
ENGL-102 Freshman English – Reading and Related Writing <i>or</i>	
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning	8-10 credits
MATH-153 Calculus I <i>or</i>	
MATH-156 Calculus and Analytic Geometry I	4-5
MATH-154 Calculus II <i>or</i>	
MATH-157 Calculus and Analytic Geometry II.	4-5

C. Health and Physical Education	2 credits
<i>Courses must be from areas of health, physical education or nutrition.</i>	

D. Humanities and the Arts	9 credits
PHIL-235 General Ethics	3
<i>Remaining courses must be from two or more areas including creative arts, history, literature, music appreciation, and performing arts.</i>	

E. Social and Behavioral Sciences	9 credits
<i>Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.</i>	

F. Natural Sciences (with Lab)	5 credits
CHEM-135 College Chemistry I	5

G. Technology	2 credits
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Major Studies

77 credits required

Required Courses	65 credits
APSC-101 Applied Science Profession I	1
APSC-311 Issues for Science Professionals.	3
APSC-349 Cooperative Education Program in Applied Science <i>or</i>	
APSC-398 Field Experience in Applied Science.	1-8
APSC-401 Applied Science Profession II	1
BIO-136 College Molecular Cell Biology I	5
BIO-235 Molecular Cell Biology II.....	4
CHEM-136 College Chemistry II	5
CHEM-201 Organic Chemistry I.....	4
CHEM-301 Physical Chemistry Lecture.	3
CHEM-303 Physical Chemistry Laboratory.	1
CHEM-331 Quantitative Analysis	3
CHEM-335 Instrumental Methods of Analysis.	3
CHEM-341 Chemistry of Materials.....	4
ENGL-415 Technical Writing	3
NANO-101 Exploration of Nanotechnology	2
NANO-301 Nanostructures.	3
NANO-330 Characterization Methods of Nanomaterials.	3
NANO-401 Nanotechnology Applications	3
PHYS-281 University Physics I.....	5
PHYS-282 University Physics II.....	5
STAT-330 Probability and Statistics for Engineering and the Sciences	3

Selective Courses	12 credits
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Choose 12 credits from the following list of selective courses:

CHEM-204 Organic Chemistry II Lecture.....	3
CHEM-206 Organic Chemistry II Laboratory.....	1
CHEM-311 Biochemistry.....	4
CHEM-325 Chemistry of Polymers.....	4
CHEM-440 Advanced Materials Laboratory.....	1-3
CHEM-470 Chemistry of Materials II.....	3
MFGT-251 Polymer and Composite Processes.....	3
MFGT-253 Joining and Casting Processes.....	3



Applied Social Science

Introduction

The Applied Social Science degree at UW-Stout is designed to provide graduates with both marketable jobs skills and the flexibility to adapt to the rapidly changing nature of U.S. society. The degree has four major emphases providing students with 1) social science theoretical perspectives, 2) a solid knowledge base in the social sciences and history, 3) the ability to apply critical thinking skills to creatively solve practical problems in the social, economic and political arenas, and 4) strong leadership and interpersonal skills in an increasingly diverse and changing workforce. Using social science theoretical perspectives and grounded in social science knowledge, students will be able to apply critical and creative thinking skills to successfully problem solve in their future employment fields. Upon completion of their Applied Social Science degree, students will have skills in data collection, evaluation and analysis, presentation, and problem solving.

The program is interdisciplinary and provides breadth of knowledge through coursework in the areas of economics, history, political science, geography, psychology, anthropology, and sociology. It offers depth of knowledge by giving students the opportunity to select a concentration an area of social science with additional, upper-level courses. It also offers students an opportunity to combine their broad and deeper knowledge in the social sciences with a complementary applied minor or in an applied area combining social science coursework with coursework in biology, chemistry, management or other fields, in preparation for employment in areas such as environmental analysis, global studies, and human resources and other services.

General Requirements

Bachelor of Science Degree

Total for graduation	120 credits
General Education	43-46 credits
Major Studies	28-38 credits
Concentration	21 credits
Applied Area or Minor	21 credits

Program Requirements

General Education

43-46 credits required

A. Communication Skills

8 credits

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech.....	2

B. Analytic Reasoning

6 credits

MATH-120	College Math I (or higher)	4
STAT-130	Elementary Statistics (or higher)	2

C. Health and Physical Education

2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 credits

HIST-210	Modern World History	3
<i>Remaining credits must be from two or more areas including art history, creative arts, foreign language and culture, literature, music appreciation, philosophy and performing arts.</i>		

E. Social and Behavioral Sciences

9-10 credits

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab)

4-5 credits

G. Technology

2 credits

H. General Education Electives

3 credits

Major Studies

28-38 credits

Professional Core

28-38 credits

ANTH-220	Cultural Anthropology.....	3
APSS-1XX	Introduction to Social Sciences.....	1
APSS-2XX	Applied Social Analysis I	3
APSS-3XX	Applied Social Analysis II	3
APSS-4XX	Internship/Capstone in Applied Social Analysis	3
ECON-210	Principles of Economics I.....	3
ECON-215	Principles of Economics II.....	3
ENGL-247	Critical Writing	3
GEOG-104	World Geography or	
GEOG-251	Introduction to Geography and GIS.....	3-4
LOG-250	Critical Thinking.....	3
PHIL-235	General Ethics	3
POLS-210	American Government	3
SOC-110	Introductory Sociology	3

Concentrations

21 credits

Select one concentration. No more than six credits from the concentration can also be counted toward General Education.

History and Politics

21 credits

Required courses:

HIST-120	Early U.S. History	3
HIST-121	Modern U.S. History	3

Select additional courses from the following to fulfill the 21 credit requirement:

HIST-XXX	Early World History	3
HIST-140	Western Civilization I	3
HIST-141	Western Civilization II	3
HIST-311	Women and War: A Global Perspective in the Modern Era	3
HIST-321	United States Women's History	3
HIST-322	African-American History	3
HIST-330	World War II	3
HIST-350	History of the Vietnam War	3
HIST-360	Asian History	3
HIST-380	Latin American History	3
HIST-460	Historical Methods	3
POLS-315	Public Policy	3
POLS-220	State and Local Government	3
POLS-270	Introduction to Comparative Government	3
POLS-340	International Relations	3
HIST-499	Independent Study	1-3
POLS-499	Independent Study	1-3
APSS-31X	Applied Multivariate Methods	3
APSS-32X	Applied Qualitative Methods	3

Other courses in consultation and approval of program director.

Economics

21 credits

Required courses:

ECON-410	Microeconomics	3
POLS-315	Public Policy or	
SOC-225	Social Problems	3
BUACT-206	Introduction to Financial Accounting	3

Select additional courses from the following to fulfill the 21 credit requirement:

ECON-335	Personal Investments	3
ECON-350	Environmental and Natural Resources Economics	3
ECON-380	Economic and Business Forecasting	3
ECON-415	Macroeconomics	3
ECON-480	International Economics	3
ECON-420	Labor Economics	3
ECON-425	Economic Development	3
ECON-445	Public Finance	3
BUMGT-304	Principles of Management	3
PSYC-377	Consumer Psychology	3
HIST-121	Modern U.S. History	3
ECON-499	Independent Study	1-3
APSS-31X	Applied Multivariate Methods	3
APSS-32X	Applied Qualitative Methods	3

Other courses in consultation and approval of program director.

Sociology/Anthropology

21 credits

Required courses:

SOC-225	Social Problems	3
SOC-250	Social Psychology	3
ANTH-250	The Human Past	3

Select additional courses from the following to fulfill the 21 credit requirement:

SOC-375	Sociology of Minority Groups	3
SOC-275	Sociology of Gender Roles	3
SOC-315	Criminology	3
ANTH-300	Native Americans	3
PSYC-110	General Psychology	3
SOCWK-205	Introduction to Social Work and Social Welfare Policy	3
PSYC-270	Social Cognition and Behavior	3
HDFS-255	Lifespan Human Development or	
HDFS-115	Individual and Family Relations	3
SOC-3XX	Sociology of Health and Illness	3
SOC-325	Sociology of Leisure	3
SOC-340	Sociology of Work	3
ANTH-499	Independent Study	1-3
SOC-499	Independent Study	1-3
APSS-31X	Applied Multivariate Methods	3
APSS-32X	Applied Qualitative Methods	3

Other courses in consultation and approval of program director.

Applied Areas

21 credits

No more than six credits can also be counted toward General Education. A two-year or technical college program involving social Science-related applications might also fulfill the applied area with program director approval.

Select either an applied area below or a complementary, applied minor in:

- ▶ Business Administration
- ▶ Disability Services
- ▶ Environmental Studies
- ▶ Geographic Information Systems
- ▶ Human Development and Family Studies
- ▶ Human Resource Management
- ▶ Military Leadership
- ▶ Project Management
- ▶ Tourism
- ▶ or other approved related minor or specialization.

Environmental Issues and Analysis

21 credits

Required courses:

ECON-350	Environmental and Natural Resources Economics *	3
GEOG-351	Intermediate Geographic Information Systems *	4
BIO-111	Science, Society and Environment *	4
CHEM-115	General Chemistry *	5

Select additional courses from the following to fulfill the 21 credit requirement:

ECON-XXX	Benefit-Cost Analysis	3
ECON-450	Energy Economics	3
POLS-315	Public Policy	3
POLS-250	Politics and Technology	3
SOC-300	Sociology of Technology	3
BIO-350	Ecology	3
BIO-444	Problem Solving in Environmental Studies	3
CHEM-353	Environmental Chemistry	3
CHEM-452	Environmental Regulation Management	3
BUMGT-304	Principles of Management	
SUST-150	Introduction to Sustainable Design	3
APSS-499	Independent study	1-3
APSS-X49	Co-op or	
APSS-X98	Internship	3

Global Studies

21 credits

Required courses:

FREN-102	Elementary French II or
SPAN-104	Elementary Spanish II or
	<i>equivalent level coursework in another language or equivalent proficiency...4</i>
TRDIS-477	International Study or
	Approved Co-op/Internship/Study Abroad or
	Approved Cross-Cultural experience

Select additional courses from the following to fulfill the 21 credit requirement (must take at least one course in subjects POLS and HIST):

POLS-340	International Relations	3
POLS-270	Comparative Politics	3
POLS-260	Problems of U.S. Foreign Policy	3
HIST-380	Latin American History	3
HIST-360	Asian History	3
HIST-141	Western Civilization	3
HIST-350	History of the Vietnam War	3
GEOG-351	Intermediate Geographic Inform. Systems	4
ECON-425	Economic Development	3
ECON-480	International Economics	3
BUINB-260	Introduction to International Business	3
BUINB-367	International Management	3
MUSIC-132	Music in Our World	3
ARTH-338	Asian Art or	
ARTH-224	Survey of Art – Renaissance through 20th Century	3
PHIL-205	Philosophy of Religion or	
PHIL-215	Eastern Philosophy or	
PHIL-220	Multicultural Philosophy	3
APSS-X99	Independent study	1-3

Art

Introduction

The Bachelor of Fine Arts in Art offers study in Studio Art or concentrations in Industrial Design, Interior Design, Graphic Design or Multimedia Design. The curriculum provides students with experiences in studio work, art history, professional studies and general studies. An understanding of liberal studies, art history, the present status of art and design, and an inquisitive attitude toward experimentation in problem-solving will move students to a professional level in studio art or in their selected concentration. Experienced art and design faculty ensure current course content and serve as advisers to the students in respective areas. A required midprogram portfolio review offers students an overview of their progress. Extensive library resources and the art and design department visual resource center are significant assets. Foreign study opportunities allow students variety in cultural experiences. Internship and cooperative education opportunities supplement educational theory and practice in a setting with working professionals. A 2.5 grade point average and a 2.0 or better in art and design department courses is required to complete this Bachelor of Fine Arts degree. Those who choose major studies in Studio Art must present an exhibition of their work during their senior year. All students who concentrate in design must present a portfolio of their work in the final semester.

General Requirements

Bachelor of Fine Arts Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	18 credits
Concentrations or Studio Art	64 credits

Program Requirements

General Education

42 credits required

A. Communication Skills

8 credits

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II or	
ENGL-113	Honors Seminar I	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning

6 credits

Courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education

2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 credits

Courses must be from three or more areas including creative arts (excluding courses with ART, ARTH, or DES prefixes) foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 credits

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab)

4 credits

G. Technology

2 credits

H. General Education Electives

2 credits

Courses must come from categories A, B, D, E and F.

Major Studies

18 credits required

ART-100	Drawing I	3
ART-101	Fundamentals of Design	3
ART-103	Design	3
ART-200	Drawing II	3
ARTH-223	Survey of Art - Ancient through Medieval	3
ARTH-224	Survey of Art - Renaissance through 20th Century	3

Studio Art

64 credits required

The student may complete the following sequence of courses in studio art to complete the art degree without concentration or select a concentration in graphic design, industrial design, interior design, or multimedia design.

Studio and Related Requirements (40 credits)

ART-145	The Practice of Art	3
ART-301	Life Drawing I	3
ART-209	Painting I	3
ART-211	Sculpture I	3
ART-213	Ceramics I	3
ART-215	Art Metal I	3
ART-217	Printmaking I	3
ART-445	Senior Seminar	1
ART-407	Aesthetics	3
ARTH-XXX	Three additional Art History courses (except ARTH-222)	9
	One must be a modern art history.	
DES-220	Computer Imagery.....	3
PHOTO-204	Exploring Photography	3

Studio Emphasis (15 credits)

Choose additional advanced experiences, totaling at least 15 credits, from a single studio area. Emphases include Art Metals, Ceramics, Drawing, Painting, Printmaking, and Sculpture.

Art Studio Selectives (9 credits)

Six credits must be from outside the studio emphasis, and no more than six credits from DES courses.

Definitions

UW-Stout offers a degree program and a concentration that are similar in name. "Graphic Design" (a concentration in the BFA in Art program) and "Graphic Communications Management" (a separate B.S. degree) are different, and offer students a choice of two professional areas.

Graphic Design encompasses all verbal and visual information produced for commercial reproduction. The graphic designer creates, selects and organizes elements to be reproduced in both print and nonprint formats. The purpose of graphic design is visual communication in a form that is attractive and easily understood. Print materials, exhibition design, video graphics, package design, signage, and corporate identification are examples of work produced by the graphic designer.

Graphic Communications Management prepares supervisors and managers for the printing and publishing industry. Graphic communications managers work with other industry professionals to make decisions on design, estimating, materials, production planning, scheduling and quality control of all types of printed products and materials. Graphic communications managers need an understanding of the printing and publishing processes, including prepress, press and postpress systems.

Concentrations

64 credits required

Graphic Design

64 credits

Studio and Related Requirements (28 credits)

ART-217	Printmaking I (serigraphy recommended)	3
DES-200	Design Theory and Methods	3
DES-210	Letter Form Design	3
DES-220	Computer Imagery.....	3
DES-205	Presentation Techniques	3
DES-310	Graphic Design I	3
DES-325	Advanced Computer Imagery	3
DES-360	Graphic Design II	3
DES-480	Senior Project – Graphic Design	4

Design Studio Selectives (6 Credits)

Choose one of the following:

DES-380	Signage and Exhibition Design	3
DES-410	Product and Packaging Graphics	3

and one of the following:

DES-382	Information Design.....	3
DES-384	Advertising Design	3
DES-386	Publication Design	3
DES-388	Typographic Design	3
XXX-XXX	Other courses approved by program director.	

Art Studio Selectives (12 Credits)

Select 6 credits from sculpture, ceramics, or art metal (3D) and 6 credits from painting, drawing, or life drawing (2D) from the following:

ART-200	Drawing II (repeatable)	3
ART-301	Life Drawing I	3
ART-209	Painting I	3
ART-409	Painting II	3
ART-211	Sculpture I	3
ART-411	Sculpture II	3
ART-213	Ceramics I	3
ART-413	Ceramics II	3
ART-215	Art Metal I	3
ART-415	Art Metal II	3
ART-217	Printmaking I	3
ART-417	Printmaking II	3
XXX-XXX	Other ART/DES courses approved by program director	1-3

Additional Art History Requirements (6 Credits)

ARTH-319	Evolution of Design	3
ARTH-XXX	Any Art History (except ARTH-222)	3

Technical Requirements (11 Credits)

GCM-141	Graphic Communications/Electronic Publishing	3
GCM-356	Color Electronic Pre-Press	3
PHOTO-204	Exploring Photography	3
XXX-XXX	Other courses approved by adviser.	

Elective (1 credit)

Industrial Design 64 credits
Studio and Related Requirements (34 credits)

ART-211	Sculpture I	3
DES-200	Design Theory and Methods	3
DES-205	Presentation Techniques	3
DES-220	Computer Imagery.....	3
DES-310	Graphic Design I	3
DES-XXX	Product Form Design	3
DES-XXX	Body and Form Interface	3
DES-XXX	Form and Function.....	3
DES-XXX	Advanced Form and Function.....	3
DES-XXX	Professional Practice	1
DES-XXX	System and Context	3
DES-XXX	Theory and Application	3

Art Studio Selectives (12 credits)

ART-200	Drawing II (repeatable)	3
ART-301	Life Drawing I	3
ART-209	Painting I	3
ART-409	Painting II	3
ART-411	Sculpture II	3
ART-213	Ceramics I	3
ART-413	Ceramics II	3
ART-215	Art Metal I	3
ART-415	Art Metal II	3
ART-217	Printmaking I	3
ART-417	Printmaking II	3
DES-405	Advanced Presentation Techniques for Designers	3
XXX-XXX	Other courses approved by program director	1-3

Additional Art History Requirements (6 credits)

ARTH-319	Evolution of Design	3
ARTH-XXX	Any Art History (except ARTH-222)	3

Technical Requirements (12 credits)

MFGT-110	Materials and Manufacturing Processes	3
MFGT-202	Welding and Casting Processes or	
MFGT-204	Polymer Processes.....	3
ENGGR-112	Principles of Engineering Drawing	3
ENGGR-466	3D Computer Modeling and Rendering.....	3

Interior Design 64 credits
Studio and Related Requirements (31 credits)

DES-200	Design Theory and Methods	3
DES-205	Presentation Techniques	3
DES-220	Computer Imagery.....	3
DES-303	Interior Design	3
DES-304	Interior Design II	3
DES-308	Lighting Design.....	3
DES-314	Interior Specifications I	3
DES-414	Interior Specifications II	3
DES-415	Environmental Interior Design I	3
DES-416	Environmental Interior Design II	4

Art Studio Selectives (12 credits)

Choose 3 credits from the following:

DES-320	Interior Furniture Design.....	3
DES-331	Human Interface Design.....	3

Choose 9 credits from the following:

ART-200	Drawing II (repeatable)	3
ART-301	Life Drawing I.....	3
ART-209	Painting I.....	3
ART-409	Painting II.....	3
ART-211	Sculpture I	3
ART-411	Sculpture II	3
ART-213	Ceramics I.....	3
ART-413	Ceramics II.....	3
ART-215	Art Metal I	3
ART-415	Art Metal II	3
ART-217	Printmaking I	3
ART-417	Printmaking II	3
DES-405	Advanced Presentation Techniques for Designers	3
XXX-XXX	Other ART/DES courses approved by program director	1-3

Additional Art History Requirements (6 credits)

ARTH-319	Evolution of Design	3
ARTH-333	Period Furnishings	3

Technical Requirements (14 credits)

AEC-131	Architectural Graphics	3
AEC-171	Light Construction Methods and Materials	3
AEC-233	Architectural Design I	3
CADD-234	Computer Assisted Design and Drafting	2
APRL-140	Textiles or	
APRL-145	Interior Decorating/Design Textiles	3

Electives (1 credit)

Multimedia Design 64 credits

Studio and Related Requirements (25 credits)

DES-200	Design Theory and Methods	3
DES-220	Computer Imagery.....	3
DES-310	Graphic Design I.....	3
DES-325	Advanced Computer Imagery	3
DES-370	Interface Design	3
DES-372	3D Modeling and Animation.....	3
DES-376	Digital Narrative	3
DES-490	Senior Project-Multimedia Design	4

Design Studio Selectives (9 credits)

DES-205	Presentation Techniques	3
DES-360	Graphic Design II.....	3
DES-377	Interactive Digital Content Design	3
DES-383	Digital Characters.....	3
DES-384	Digital Environment.....	3
DES-385	Interactive Digital Design.....	3

Art Studio Selectives (12 credits)

ART-200	Drawing II (<i>repeatable</i>)	3
ART-301	Life Drawing I.....	3
ART-209	Painting I.....	3
ART-409	Painting II.....	3
ART-211	Sculpture I	3
ART-411	Sculpture II	3
ART-213	Ceramics I.....	3
ART-413	Ceramics II.....	3
ART-215	Art Metal I	3
ART-415	Art Metal II	3
ART-217	Printmaking I	3
ART-417	Printmaking II	3
XXX-XXX	<i>Other ART/DES courses approved by adviser.</i>	

Additional Art History Requirements (6 credits)

ARTH-319	Evolution of Design	3
ARTH-XXX	<i>Any Art History (except ARTH-222)</i>	3

Technical Requirements (12 credits)

CS-144	Computer Science I.....	3
CS-248	Web and Internet Programming	3
PHOTO-204	Exploring Photography	2-3
PHOTO-430	Audio/Film Production Fundamentals	3

Art Education

Introduction

The Art Education program provides students with experience in liberal studies, art history, studio art and professional education. It is a Bachelor of Science degree program that prepares students for certification by the Department of Public Instruction for teaching art in elementary and secondary schools. An understanding of general studies, art history, the present status of art and the educational environment, with an inquisitive approach toward problem solving, will move students to a professional level. Experienced art and design faculty ensure current course content and serve as advisers for students. Preteaching observation, presented at the sophomore level, provides students an early involvement in elementary and secondary schools. A required mid-program review offers students an overview of their progress. Extensive library resources and the art and design department visual resource center are significant assets. Foreign study opportunities allow students variety in cultural experiences. An optional 11 credit additional concentration in Adaptive Education is available.

General Requirements

Bachelor of Science Degree

Total for graduation	135 credits
General Education	42 credits
Major Studies	93 credits

A mid-program portfolio review and a screening for continuation in the Art Education program are required for graduation. Before student teaching, students must have a minimum overall grade point average of 2.75, successfully completed the standardized content examination required by the Wisconsin Department of Public Instruction, compiled a professional education portfolio and be fully admitted from pre-Art Education status to the Art Education program. Students present an exhibition of their work during one semester of their senior year (*not during the semester of student teaching*). Students must achieve a minimum grade of "C" (2.0) or better in each class, achieve a 2.75 grade point average in all art, art education, art history, design, and professional education courses, and successfully complete student teaching at both primary and secondary levels before graduation.

Teacher Education Requirements

Students proceed through a series of three benchmarks as they move toward licensure.

Benchmark I: Acceptance into Teacher Education

Teacher education students will begin fulfilling their requirements for Benchmark I as they complete their first 40 credits. Requirements of DPI Benchmark I must be met before moving from pre-education status to fully admitted status in the Family and Consumer Sciences Education program. Detailed information is online at:

www.uwstout.edu/soe/students/requirements-benchl.shtml.

- ▶ Pass the Pre-Professional Skills Test (PPST)
- ▶ Attain a 2.75 cumulative grade point average
- ▶ Pass the required teacher background check
- ▶ Earn a grade of at least 2.00 (C) in ENGL-101 and ENGL-102 or ENGL-111 and ENGL-112.
- ▶ Earn a minimum grade of 2.00 (C) in SPCOM-100 Fundamentals of Speech.
- ▶ Earn a minimum grade of 2.00 (C) in ART-108 Introduction to Art Education
- ▶ Complete EDUC-326 Foundations of Education
- ▶ Satisfactorily complete Benchmark I Portfolio Assessment

Benchmark II: Application for Student Teaching

Benchmark II must be completed prior to student teaching. Detailed information is online at: www.uwstout.edu/soe/students/requirements-benchl.shtml.

- ▶ Complete Application for Student Teaching form
- ▶ Maintain a 2.75 grade point average
- ▶ Pass Content Knowledge Exam (*Praxis II*)
- ▶ Receive clearance through an updated background check
- ▶ Complete a satisfactory tuberculosis (TB) test
- ▶ Receive satisfactory portfolio assessment by faculty
- ▶ Receive satisfactory rating on Benchmark II Student Interview
- ▶ Submit copies of resume to the School of Education prior to student teaching

Benchmark III: Program Completion

Benchmark III must be completed before you can be recommended for licensure. Detailed information is online at: www.uwstout.edu/soe/students/requirements-benchl.shtml.

- ▶ Complete electronic portfolio and receive a basic or higher proficiency level of assessment
- ▶ Complete all program coursework
- ▶ Meet all program-specific requirements
- ▶ Student teach at two levels: Elementary School and High School.
- ▶ Receive a satisfactory student teaching assessment

Program Requirements

General Education

42 credits required

A. Communication Skills **8 credits**

A grade of "C" or better is required in English and speech.

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I.....	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II.....	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning **6 credits**

MATH-XXX Any Mathematics from the approved General Education list ..4

Remaining courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

MEDIA-204	Exploring Photography.....	3
LIT-XXX	Any Literature	3

A remaining course must be from one of the following areas: foreign language and culture, history, music appreciation or philosophy. Either HIST-210 Modern World must be taken under this category or ANTH-220 Cultural Anthropology must be taken under Category E.

E. Social and Behavioral Sciences **9 credits**

POLS-210	American Government	3
PSYC-110	General Psychology	3

A remaining course must be from one of the following areas: anthropology, economics, geography or sociology. See previous note under category D.

F. Natural Sciences (with Lab) **4 credits**

Choose a biology course, and either a chemistry or physics course.

G. Technology **2 credits**

H. General Education Electives **2 credits**

Courses must come from categories A, B, D, E and F.

Major Studies

93 credits with a grade of "C" or better is required in each course.

Art and Design Requirements **33 credits**

ART-100	Drawing I	3
ART-101	Two-Dimensional Design Foundations	3
ART-103	Three-Dimensional Design Foundations	3
ART-145	The Practice of Art.....	2
ART-200	Drawing II	1-3
ART-209	Painting I	3
ART-213	Ceramics I	3
ART-215	Art Metal I	3
ART-217	Printmaking I.....	3
ART-445	Senior Seminar	1
ART-407	Aesthetics	3
DES-220	Introduction to 2D Digital Imaging.....	3

Studio Selective **3 credits**

Select studio course from art metals, ceramics, drawing, life drawing, painting, printmaking, sculpture, graphic, industrial, multimedia, or interior design courses. Course selected may not be from the focus area.

Advanced Studio Selectives **6 credits**

Select two additional studio courses from one area: art metal, ceramics, drawing, painting, printmaking, or sculpture.

Art History Requirements **12 credits**

ARTH-223	Survey of Art – Ancient through Medieval	3
ARTH-224	Survey of Art – Renaissance through 20th Century	3
ARTH-319	Evolution of Design	3

Select 1 additional 20th century or non-Western art history course from the following:

ARTH-336	Modern Art	3
ARTH-337	Art Since 1950	3
ARTH-338	Oriental Art	3
ARTH-XXX	Other, approved by advisor.....	3

Professional Education Requirements **39 credits**

Students must be fully admitted into the Art Education program to enroll in courses marked with an asterisk (*).

ARTED-108	Introduction to Art Education.....	2
ARTED-208	Preteaching Observation (Sophomore Year).....	2
ARTED-308	K-12 Art Education Theory, Methods and Practices*	4
EDUC-303	Educational Psychology*	3
EDUC-326	Foundations of Education.....	2
EDUC-336	Multiculturalism: Issues and Perspectives*.....	2
EDUC-376	Field Experience – Cross Cultural Experience*	1
EDUC-382	Secondary Reading and Language Development*	2
EDUC-415	Classroom Management*	2
SPED-430	Inclusion of Students With Exceptional Needs*	3

Select one of the following options:

Option 1

ARTED-408	Student Teaching Art Education — Elementary *	8
ARTED-409	Student Teaching Art Education — Secondary *	8

Option 2

ARTED-488	Intern Teaching: Art Education *	16
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Business Administration

Introduction

The Business Administration program at UW-Stout is unique in that it blends business with technology. It has a solid foundation of general-liberal studies and covers the functional areas of marketing, manufacturing, finance, personnel, accounting and law. It also requires comprehensive courses in policies, management information systems, leadership, and the legal and ethical aspects of management. The unique aspect of requiring credits in a technical component allows a student to tap one or more of UW-Stout's technology areas such as construction, graphic arts management, information systems, logistics management, loss control, packaging, quality management, training, retail management, hospitality and tourism management, and the like to complement the business program.

Keeping pace with the demands of the ever-changing business environment, the business degree at UW-Stout has added a concentration in supply chain management. Recognizing that this is a specialized skill that is being driven by globalization, cost control and increased customer service levels and high quality requirements; the business program has reached out to give our students an opportunity to specialize in this critical area of commerce. Supply chain management encompasses all logistics management activities. Since this area of business integrates supply and demand management within and across companies, and represents approximately 70 to 80 percent of the cost structure of a typical company; it is necessary to operate an efficient supply chain in order to compete. Thus businesses have deemed this to be a critical business function and skill.

Recent graduates have obtained positions in areas of sales, retailing, production control, manufacturing supervision, purchasing, cost accounting, human resource management, restaurant management, customer service, banking and others.

General Requirements Bachelor of Science Degree

Total for graduation.....	124 credits
General Education	42 credits
Professional Preparation	8-9 credits
Major Studies	73-74 credits

A grade point average of at least 2.5 for the last 64 credits earned or a grade point average of 2.5 overall for UW-Stout credits earned in program is required.

Program Requirements

General Education

42 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning * **6 credits**

STAT-130	Elementary Statistics	2
MATH-123	Finite Mathematics with Applications (or more advanced)	4

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences **9 credits**

ECON-210	Principles of Economics I.....	3
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Remaining courses must be from two or more areas including anthropology, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **4 credits**

G. Technology **2 credits**

H. General Education Electives **2 credits**

Courses must come from categories A, B, D, E and F.

Professional Preparation

8-9 credits

Problem Solving **3 credits**

Select one course from the following:

RD-205	Design for Industry.....	3
ENGL-247	Critical Writing	3
LOG-250	Critical Thinking	3
LOG-301	Introduction to Logical Thinking.....	3

Business Writing **3 credits**

ENGL-320	Business Writing or	
ENGL-415	Technical Writing	3

Information Technology **2-3 credits**

Select one course from the following:

MEDIA-440	Telecommunication Systems and Teleconferencing	2
TCS-281	Data Communications	3
ICT-305	Office Automation Technology	3
TCS-307	Artificial Intelligence Applications in Business	2
ITM-481	Telecommunications Systems Administration	3
BUMIS-310	Management Information Systems	2
XXX-XXX	Any computer-based information systems course from a specific technical emphasis area	1-3

Major Studies for degree without concentration

73-74 credits required

At least 50 percent of these credits must be taken at UW-Stout.

Business Core 28 credits

BUACT-206	Introduction to Financial Accounting	3
BUACT-207	Introduction - Corporate and Managerial Accounting.....	3
BUACT-340	Business Finance	3
BUMGT-100	Introduction to Business Administration	1
BUMIS-333	Management Information Systems – Decision Support Systems	3
BUMKG-304	Principles of Management	3
BUMKG-330	Principles of Marketing.....	3
BULGL-318	Business Law I.....	3
ECON-215	Principles of Economics II.....	3
INMGT-200	Production and Operations Management	3

Professional Core 33 Credits

Select one course from each of the following areas:

BUACT-XXX	Any Accounting	3
BUINB-XXX	Any International Business or	
ECON-480	International Economics.....	3
BULGL-XXX	Any Business Legal	3
BUMGT-XXX	Any Business Management –Experiential Learning	2
BUMKG-XXX	Any Business Marketing	3
BUMIS-XXX	Any Business Management Information Systems –	
	Integrated Systems	3
INMGT-XXX	Any Industrial Management – Production Operations	3
INMGT-XXX	Any Industrial Management – Practicum	3
XXX-XXX	Any Human Resources	3
XXX-XXX	Any Management.....	2-3
XXX-XXX	Any Business Electives.....	4

Technical Component 10 credits

Select courses related to one area of technology that relates to your selected professional core. Courses may be selected from construction, graphic arts management, information systems, logistics management, loss control, packaging, quality management, training, retail management, hospitality and tourism management or others with approval of the program director.

Electives 2-3 credits

Major Studies for degree with Supply Chain Management Concentration

73-74 credits required

At least 50 percent of these credits must be taken at UW-Stout.

Professional Studies * 28 credits

INMGT-200	Production/Operations Management.....	3
BUMGT-100	Introduction to Business Administration	1
BUACT-206	Introduction to Financial Accounting	3
BUACT-207	Introduction - Corporate and Managerial Accounting.....	3
BUMKG-304	Principles of Management	3
BULGL-318	Business Law I.....	3
BUMKG-330	Principles of Marketing.....	3
BUMIS-333	Management Information Systems – Decision Support Systems	3
BUACT-340	Business Finance.....	3
ECON-215	Principles of Economics II.....	3

Concentration Requirements * 44-47 Credits

BUACT-335	Accounting for Management Decisions.....	3
BUINB-338	International Logistics	3
BULGL-319	Business Law II or	
BULGL-401	Legal Environment of Business.....	2-3
BUMGT-489	Business and Industrial Internship or	
BUMGT-449	Cooperative Education Experience	2
BUMKG-337	Procurement, Sourcing and Supply Chain Management	3
BUMKG-438	Principles of Logistics	3
BUMKG-439	Seminar: Supply Chain Systems Design.....	3
INMGT-305	Resource Planning and Materials Management.....	3
INMGT-314	Industrial Enterprise Practicum.....	3
INMGT-320	Quality Tools	3
INMGT-325	Quality Management.....	3
INMGT-365	Project Management	3
INMGT-400	Organizational Leadership or	
INMGT-430	Employee Involvement: Work Teams	2-3
INMGT-405	Resource Planning and Materials Management Practicum.....	3
INMGT-440	Lean Enterprise	3
RC-381	Occupational Safety/Loss Control or	
TRHRD-360	Training Systems in Business and Industry.....	2-3

Electives 1-2 credits

* Courses require a 3.0 grade point average under Analytical Reasoning, Professional Studies and Concentration Requirements.

Career, Technical Education and Training

Introduction

This program prepares teachers for post-high school settings such as junior colleges, public and private technical colleges, and industrial training programs.

A student must obtain a minimum of 4,000 hours of appropriate work experience for provisional certification to teach career, technical and adult education courses in Wisconsin technical colleges.

Students must make applications for admission to the education sequence. Candidates must hold a cumulative grade point average of at least 2.75.

Articulation Agreement. There is an approved articulation agreement for this program with all of the Wisconsin Technical Colleges. The articulation agreement covers all Associate of Applied Art and Associate of Applied Science programs.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	75 credits
Electives	7 credits

Program Requirements

General Education

42 credits required

A. Communication Skills **8 Credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech.....	2

B. Analytic Reasoning **6 Credits**

Courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education **2 Credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 Credits**

Courses must be from three or more areas including art history, creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences **9 Credits**

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **4 Credits**

G. Technology **2 Credits**

H. General Education Electives **2 Credits**

Courses must come from categories A, B, D, E and F.

Major Studies

75 credits required

Technical

40 credits

Because each student brings different qualifications as a result of prior training and experience, the student, with the assistance of the program director, will define all 40 technical credits in terms of student and job competency needs.

Professional Education

35 credits

CTE-302	Principles of Career and Technical Education**	2
CTE-334	Performance Analysis	3
CTE-405	Methods of Teaching CTET**	2
CTE-438	Course Construction for CTET**	2
CTE-440	Instructional Evaluation in CTET**	2
CTE-474	Adult Education	2
EDUC-336	Multiculturalism: Issues and Perspectives**	2
EDUC-403	Educational Psychology for the Adult Learner**	2
MEDIA-360	Introduction to Media in Education and Training.....	2
INMGT-400	Organizational Leadership or	
PSYC-382	Human Resource Management	3
SCOUN-301	Introduction to Guidance**	2
TRHRD-360	Training Systems in Business and Industry.....	3
CTE-408	Student Teaching in CTE or	
TRHRD-389	Training Internship	8

*** Course content is mandated for Wisconsin Technical College System certification.*

Electives

7 credits required



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Cognitive Science

Introduction

Cognitive science is the study of the mind, information systems, and the interface of these with technology. Its goal is to understand mental and informational processes, such as perception and knowledge representation, through experimental methods and the construction of theories and models at the computational and neural levels. In its application, cognitive science aims at the development of smart devices, such as artificial intelligence technologies and imaging technologies, which extend and enhance human capabilities.

Given the multidimensional nature of mind and intelligence, cognitive science combines a number of disciplines in its investigation: biology, computer science, education, mathematics, neuroscience, philosophy and psychology. The broadly based interdisciplinary approach will provide students with the type of flexible thinking and problem solving that are essential to serve the evolving technological needs of society in the 21st century. In addition, cognitive science students will develop skills in effective communication, creative thinking, hypothesis generation, experimental design, data analysis and interpretation, mathematical and computer modeling, and statistical analysis. Students with these skills will be well situated to meet the needs of the information industry, human factors engineering, medicine, including imaging and analysis, neurological testing, human performance testing, education, assistive technologies, and basic research.

General Requirements

Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Major Studies	50-51 credits
Free Electives	7-15 credits
Concentration or Minor	15-22 credits

Program Requirements

General Education

40 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning **6- 8 credits**

MATH-121	Introduction to College Math II or	
MATH-153	Calculus I or	
MATH-156	Calculus and Analytic Geometry	4-5
STAT-130	Elementary Statistics or	
STAT-320	Statistical Methods	2-3

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

Credits must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, philosophy and performing arts.

E. Social and Behavioral Sciences **9 credits**

PSYC-110	General Psychology	3
ANTH-220	Cultural Anthropology or	
ANTH-250	The Human Past	3

Remaining credits must be from economics, geography, political science, and sociology.

F. Natural Sciences (with Lab) **4 credits**

BIO-132	Human Biology	4
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G. Technology **2 credits**

Major Studies

50-51 credits required

Cognitive Science Required Courses **32 credits**

COG-101	Cognitive Science I	4
COG-202	Cognitive Science II	4
XXX-XXX	Cognitive Science Research Studio	8
CNS-481	Mathematics and the Brain	4
CS-144	Computer Science I	3
LOG-2XX	Symbolic Logic	3
PHIL-3XX	Philosophy of Mind	3
PSYC-290	Interpreting Psychological Research	3

Selective Courses **18-19 credits**

Psychology

Take any two courses from the following:

PSYC-270	Social Cognition and Behavior	3
PSYC-335	Motivation and Emotion	3
PSYC-3XX	Reasoning and Decision Making	3
PSYC-430	Perception	3
PSYC-442	Cognitive Processes	3

Natural Sciences

BIO-234	Physiology and Anatomy	4
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Take any two courses from the following:

BIO-360	Introduction to Cognitive Neuroscience	3
PHYS-2XX	Neurophysics	4
CHEM-125	Chemistry for Health Sciences	5
CHEM-135	College Chemistry I	5

Electives

7-15 credits required

Elective credits are chosen under advisement of program director.

Self-Planned Concentration or Minor

15-22 credits required

With approval of program director, students have the option of completing a minor or a self-planned concentration to fulfill 120 credit overall program requirement.



Computer Engineering

Introduction

The Computer Engineering program at UW-Stout is ideally suited to meet the needs of regional and national industries by providing computer engineers with a strong background in both electrical engineering and computer science. Graduates of this program are equipped to work with both hardware and software aspects of computer systems.

Demand for computer engineers is strong, as computer systems of all sizes — from computer chips in cellular telephones to computer-controlled equipment in large manufacturing environments — are ubiquitous in present-day society.

UW-Stout's Computer Engineering program is a calculus-based program which progresses from solid foundations in mathematics and science through analysis and design. The program includes a strong emphasis on laboratory activities and student engineering design projects, with a particular focus on the design of hardware and software for engineering systems that utilize embedded digital processors such as microprocessors, microcontrollers, digital signal processors and personal computers.

General Requirements

Bachelor of Science Degree

Total for graduation.....	131
General Education	43
Major Studies	87

Program Requirements

General Education

43 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech.....	2

B. Analytic Reasoning **8 credits**

MATH-153	Calculus I	4
MATH-154	Calculus II	4

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

PHIL-235	General Ethics	3
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Remaining credits must be from two or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, and performing arts.

E. Social and Behavioral Sciences **9 credits**

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **5 credits**

CHEM-135	College Chemistry I	5
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G. Technology **2 credits**

Major Studies

87 credits required

Mathematics and Basic Sciences **19 credits**

MATH-XXX	Discrete Mathematics.....	3
MATH-250	Differential Equations With Linear Algebra	3
PHYS-281	University Physics I	5
PHYS-282	University Physics II.....	5
STAT-330	Probability and Statistics for Engineering and the Sciences.....	3

Engineering Core **14 credits**

CEE-205	Circuits Analysis and Design	4
INMGT-300	Engineering Economy	2
MECH-293	Engineering Mechanics	3
MECH-294	Mechanics of Materials	3
MFGE-275	Thermodynamics and Heat Transfer.....	2

Computer Engineering **55 credits**

CEE-225	Digital Logic	3
CEE-2XX	Signals and Systems.....	3
CEE-3XX	Electronic Circuits	4
CEE-3XX	Digital Systems Design	3
CEE-3XX	Microprocessors.....	3
CEE-3XX	Data Communications and Computer Networking	3
CEE-3XX	Fundamentals of Controls	4
CEE-3XX	Electromagnetic Wave Propagation	3
CEE-4XX	Digital Signal Processing or	
CEE-4XX	Fundamentals of Wireless Communication	3
CEE-4XX	Embedded Systems	3
CEE-4XX	Senior Design Project I	2
CEE-4XX	Senior Design Project II	2
CS-144	Computer Science I	3
CS-145	Computer Science II.....	3
CS-244	Data Structures	4
CS-245	Introduction to Computer Organization	3
CS-441	Computer Architecture	3
CS-442	Systems Programming.....	3

Construction

Introduction

The Construction program is designed to prepare individuals for a variety of responsible positions in the field of construction.

Broad objectives of the program include developing fundamental knowledge of science, engineering, business, management, architecture and construction principles; applying scientific, technological and management principles to the solution of construction problems; and integrating diverse scientific and technical areas as they impact on the construction field.

General Requirements

Bachelor of Science Degree

Total for graduation.....	128 credits
General Education	46 credits
Major Studies	76 credits
Writing and Science Preparation	6 credits

Program Requirements

General Education

46 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I.....	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II.....	3
SPCOM-100	Fundamentals of Speech.....	2

B. Analytic Reasoning **6 credits**

MATH-153	Calculus I	4
STAT-130	Elementary Statistics	2

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences **9 credits**

ECON-201	General Economics or	
ECON-210	Principles of Economics I.....	3
POLS-210	American Government.....	3
SOC-110	Introductory Sociology or	
PSYC-110	General Psychology	3

F. Natural Sciences (with Lab) **10 credits**

PHYS-241	College Physics I and	
PHYS-242	College Physics II	10

G. Technology **2 credits**

Major Studies

76 credits required

Business and Management **18 credits**

INMGT-300	Engineering Economy	3
INMGT-400	Organizational Leadership	3
BUACT-201	Financial-Managerial Accounting or	
BUACT-206	Introduction to Financial Accounting	3
BUMGT-304	Principles of Management	3
BUMKG-330	Principles of Marketing.....	3
PSYC-382	Human Resource Management	3

Architecture, Engineering and Construction **58 credits**

RC-388	Construction Safety.....	3
BULGL-473	Legal Aspects of Construction.....	3
AEC-131	Architectural Graphics	3
AEC-171	Light Construction Methods and Materials	3
AEC-190	Orientation to Construction Industry	1
AEC-237	Architectural Technology.....	3
AEC-270	Heavy Construction Methods and Equipment.....	3
AEC-273	Concrete and Masonry Technology.....	3
AEC-357	Site Engineering	3
AEC-438	Contract Requirements and Specifications.....	3
AEC-452	Environmental Systems – HVAC	3
AEC-453	Environmental Systems – Plumbing and Electrical	3
AEC-458	Structural Systems – Wood and Steel	3
AEC-459	Structural Systems – Concrete and Masonry	3
AEC-370	Construction Estimating I	3
AEC-470	Construction Estimating II	3
AEC-472	Management of Construction	3
AEC-471	Project Scheduling and Cost Control	3
AEC-449	Cooperative Education Experience	2
PHYS-321	Statics and Strength of Materials	4

Writing and Science Preparation

6 credits required

ENGL-320	Business Writing or	
ENGL-415	Technical Writing	3
PHYS-257	Introduction to Geology and Soil Mechanics.....	3

Dietetics

Introduction

The Dietetics program prepares graduates for careers in clinical and administrative dietetics, community and public health nutrition, corporate wellness, and nutrition education as well as for opportunities in the food services, business and industry.

The Dietetics program is currently granted approval status by the Commission on Accreditation/Approval for Dietetics Education, of the American Dietetic Association, 120 S. Riverside Plaza, Suite 2000, Chicago, IL, 60606-6995, phone 800/877-1600. Completion of the Didactic Program in dietetics and the baccalaureate degree meet minimum academic requirements for ADA membership, registration eligibility and application to a dietetic internship or preprofessional practice program.

The dietetic student receives an education with an emphasis on the following sciences: physical and biological; behavioral and social; communication and professional. With this background, the student can move toward the community and business management of nutritional health, food service and dietetic practices that include nutrition counseling and medical nutritional therapy.

General Requirements

Bachelor of Science Degree

Total for graduation.....	124-125 credits
General Education	45-46 credits
Major Studies	76 credits
Professional Emphasis Area.....	3-4 credits

Supervised work experience must be obtained through participation in the Field Experience program.

Students must attain a grade point of 2.0 or better in each of the General Education and Major Studies courses. (*All transferred credits will meet this program requirement.*) A 2.75 or greater grade point average is required for graduation. A minimum grade of B (3.0) is required in FN-212 Nutrition. Courses marked with an asterisk (*) are repeatable only once, and require a cumulative grade point average of 2.50, except for FN-212, which requires a 3.0, or "B."

Program Requirements

General Education

45-46 credits required

A. Communication Skills

8 credits

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech.....	2

B. Analytic Reasoning

6-7 credits

STAT-130	Elementary Statistics or	
STAT-320	Statistical Methods	2-3
MATH-120	Introductory College Mathematics I (or more advanced).....	4

C. Health and Physical Education

2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 credits

POLS-210	Government.....	3
PSYC-110	General Psychology.....	3

Choose one of the following:

SOC-110	Introductory Sociology	3
SOC-225	Social Problems.....	3
ANTH-220	Cultural Anthropology.....	3
ANTH-300	Native Americans	3

F. Natural Sciences (with Lab)

9 credits

BIO-134	Physiology and Anatomy for Health Sciences*	4
CHEM-115	General Chemistry* or	
CHEM-125	Principles of Chemistry for Health Sciences* or	
CHEM-135	College Chemistry I*	5

G. Technology

2 credits

Major Studies

76 credits required

Physical and Biological Sciences **15 Credits**

BIO-306	General Microbiology or	
BIO-406	Food Microbiology	4
BIO-362	Advanced Physiology.....	3
CHEM-201	Organic Chemistry.....	4
CHEM-311	Biochemistry.....	4

Nutrition and Medical Nutrition Therapy **19 credits**

FN-212	Nutrition*.....	3
FN-207	Medical Terminology	1
FN-320	Advanced Nutrition.....	3
FN-312	Nutrition Assessment.....	2
FN-413	Maternal and Child Nutrition or	
FN-415	Nutritional Issues in Gerontology	3
FN-417	Medical Nutrition Therapy I	3
FN-418	Medical Nutrition Therapy II	4

Nutrition Education/Counseling, Communication and Community Nutrition **9 credits**

FN-406	Nutrition Education	3
FN-360	Nutrition Counseling	3
FN-380	Community Nutrition.....	3

Food and Food Science **10 credits**

FN-240	Food Science	4
FN-442	Basic Sensory Analysis	3
FN-461	Multicultural Aspects of Food and Nutrition Patterns	3

Food Service Administration/Management **19 credits**

BIO-206	Foodservice and Environmental Sanitation	1
BUMGT-304	Principles of Management	3
FN-330	Institutional Menu Planning	3
HT-324	Quantity Food Production	4
HT-450	Food Service Administration	3
HT-150	Institutional Food Purchasing.....	2
HT-362	Food, Beverage, and Labor Cost Controls	3

Career Awareness **4 credits**

FN-101	Dietetics as a Profession	1
FN-397	Field Experience.....	2
FN-408	Preprofessional Development.....	1

Professional Emphasis Area

3-4 credits required

Select 3-4 credits in an appropriate area of emphasis or combine credits in emphasis area, or use credits toward a minor, or choose other elective credits, all with the approval of a program director. Emphasis areas include Fitness and Nutrition, Food Science and Technology, Health and Nutrition Behavior, Management of Nutrition Services, and Nutrition and Rehabilitation.

Early Childhood Education

Introduction

Curriculum in the Early Childhood Education program is designed to prepare resourceful, creative and competent graduates to work in settings with young children. The program emphasizes theory and practice and meets the requirements for birth through grade three teaching certification for the State of Wisconsin. Academic course work is enriched by involvement with children in early childhood settings early in the program, with observation and participation experiences in UW-Stout's Child and Family Study Center. Graduates are employed as preschool, kindergarten and primary teachers, and administrators of early childhood care centers, curriculum specialists, and resource and referral specialists within corporations and the public sector.

General Requirements

Bachelor of Science Degree

Total for graduation..... 127 credits
General Education 48 credits
Major Studies 79 credits

Students must demonstrate proficiency in American Red Cross First Aid procedures, either by verifying current certification with their adviser, or by satisfactory completion of HLTH-340 ARC Standard First Aid and Personal Safety (*adding 1 credit to the program credit total*).

- * Required courses with a grade point of 2.0 (C) or better. Courses in which a student earns less than the required 2.0 must be retaken and at least a 2.0 earned prior to student teaching.
- ** Required major courses with grade point of 2.67 (B-) or better. Courses in which a student earns less than the required 2.67 must be retaken and at least a 2.67 earned prior to student teaching.

Teacher Education Requirements

Students proceed through a series of three benchmarks as they move toward licensure.

Benchmark I: Acceptance into Teacher Education

Teacher education students will begin fulfilling their requirements for Benchmark I as they complete their first 40 credits.

- ▶ Complete EDUC-326 Foundations of Education
- ▶ Pass the PPST (*Pre-Professional Skills Test*)
- ▶ Attain a 2.75 cumulative grade point average
- ▶ Pass the required teacher background check
- ▶ Earn a grade of at least 2.00 (C) in ENGL- 101 and ENGL-102 or ENGL-111 and ENGL-112.
- ▶ Earn a minimum grade of 2.00 (C) in SPCOM-100 Fundamentals of Speech.
- ▶ Complete General Education Technology requirement
- ▶ Receive three recommendations to enter into teacher education

Benchmark II: Application for Student Teaching

Benchmark II must be completed prior to student teaching.

- ▶ Complete electronic portfolio
- ▶ Receive satisfactory portfolio assessment by faculty
- ▶ Pass Content Knowledge Exam
- ▶ Receive clearance through an updated background check
- ▶ Maintain a 2.75 grade point average
- ▶ Complete a satisfactory tuberculosis (*TB*) test
- ▶ Submit copies of resume to the School of Education prior to student teaching
- ▶ Complete Application for Student Teaching form

Benchmark III: Program Completion

Benchmark III must be completed before you can be recommended for licensure.

- ▶ Complete electronic portfolio and receive a basic or higher proficiency level of assessment
- ▶ Complete all program coursework
- ▶ Meet all program-specific requirements
- ▶ Student teach at three levels: infant/toddler/preschool, kindergarten and primary.
- ▶ Receive a satisfactory student teaching assessment

Program Requirements

General Education

48 credits required

A. Communication Skills 8 credits

ENGL-101	Freshman English – Composition* or	
ENGL-111	Freshman English – Honors I*	3
ENGL-102	Freshman English – Reading and Related Writing* or	
ENGL-112	Freshman English – Honors II*	3
SPCOM-100	Fundamentals of Speech*	2

B. Analytic Reasoning 6 credits

MATH-118	Concepts of Mathematics (or more advanced)*	4
STAT-130	Elementary Statistics	2

C. Health and Physical Education 2 credits

FN-102	Nutrition for Healthy Living	2-3
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D. Humanities and the Arts 10-11 credits

LIT-300	Children's Literature*	3
HIST-120	Early U.S. History or	
HIST-121	Modern U.S. History	3
HIST-210	Modern World	3

Remaining courses must be from areas of creative or performing arts or art history.

E. Social and Behavioral Sciences † 12 credits

ANTH-220	Introduction to Cultural Anthropology	3
GEOG-104	World Geography	3
POLS-210	American Government	3
PSYC-110	General Psychology *	3

F. Natural Sciences (with Lab) 8 credits

BIO-101	Introductory Biology*	4
CHEM-105	Visualizing Chemistry *	2
PHYS-258	Introduction to Geology*	2

G. Technology 2 credits

Major Studies

79 credits required

Early Childhood Education major studies 44 credits

ECE-100	Introduction to Early Childhood Programs*	1
ECE-303	Developmentally Appropriate Practice: Infants and Toddlers*	3
ECE-307	Developmentally Appropriate Practice: Preschool*	4
ECE-309	Developmentally Appropriate Practice: Kindergarten-Primary*	2
ECE-364	Observing and Guiding Children: Early Childhood Classrooms**	3
ECE-410	Early Childhood Curriculum: Science*	3
ECE-411	Early Childhood Curriculum: Mathematics*	3
ECE-412	Early Childhood Curriculum: Social Studies*	3
ECE-413	Language Arts and Emergent Reading: Birth-K*	3
ECE-414	Language Arts and Emergent Reading: K and Primary*	2
ECE-421	Administration of Early Childhood Programs*	2
ECE-426	Advanced Classroom Management and Guidance**	3
ECE-435	Children, Families, Schools, and Communities**	3
FN-236	Nutrition for Young Children*	1-2
HDFS-124	Human Development: Early Childhood**	3
PE-265	Physical Activities for Young Children*	2
MUSIC-206	Music for the Young Child*	2

Student Teaching 24 credits

ECE-480	Student Teaching: Infant, Toddler, Preschool*	8
ECE-493	Student Teaching: Kindergarten*	8
ECE-494	Student Teaching: Primary*	8

ECE-488 Intern Teaching can be taken to replace any level of student teaching.

Professional Education Core 11 credits

EDUC-303	Educational Psychology*	3
EDUC-326	Foundations of Education*	2
EDUC-336	Multiculturalism: Issues and Perspectives*	2
EDUC-376	Field Experience – Cross Cultural Experience *	1
SPED-430	Inclusion of Students with Exceptional Needs*	3

Engineering Technology

Introduction

UW-Stout's Engineering Technology degree provides a broad background in industrial practices combined with an in-depth study in an engineering-related concentration. The program is designed to prepare graduates for industrial positions related to the engineering concentration area, with an appropriately broad background for later advancement into management positions. Typical entry-level positions include Design Engineer, Project Engineer, Plant Engineer, Process Engineer, Designer, Industrial Engineer, Production Scheduler and Applications Engineer. Students in the program develop knowledge and competencies in the concentration engineering area, materials and manufacturing methods, management/overview of the industrial organization, effective oral and written communication, and the application of physical science and mathematics principles to understand and solve technological and economic problems found in industry.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	51 credits
Major Studies	23 credits
Concentrations	50 credits

Program Requirements

General Education

51 credits required

A. Communication Skills 8 credits

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech.....	2

B. Analytic Reasoning 6 credits

MATH-153	Calculus I	4
STAT-130	Elementary Statistics	2

C. Health and Physical Education 2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts 9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences 9 credits

ECON-201	General Economics or	
ECON-210	Principles of Economics I	3

Remaining courses must be from two or more areas including anthropology, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) 15 Credits

CHEM-135	College Chemistry I	5
PHYS-241	College Physics I	5
PHYS-242	College Physics II	5

G. Technology 2 Credits

Major Studies

23 credits required

BUACT-200	Financial-Managerial Accounting – Engineering Technology	2
BUMKG-330	Principles of Marketing.....	3
ENGL-415	Technical Writing	3
INMGT-200	Production/Operations Management	3
INMGT-400	Organizational Leadership	3
MFMT-150	Introduction to Engineering Materials	3
RD-100	Introduction to Engineering Technology	1
RD-205	Design for Industry.....	3
RC-381	Occupational Safety/Loss Control	3

Concentrations

50 credits required

Students elect one of the following concentrations.

Electrical Engineering Technology 50 credits

Core Requirements (45 credits)

ENGGR-112	Principles of Engineering Drawing	3
CS-144	Computer Science I.....	3
CS-145	Computer Science II.....	3
CS-244	Data Structures	4
ELEC-204	Electricity/Electronics Fundamentals.....	3
ELEC-260	Electrical Circuits.....	3
ELEC-271	Digital Logic and Switching.....	3
ELEC-274	Fundamentals of Microprocessors and Microcomputer Systems.....	3
ELEC-340	Motors and Generators.....	2
ELEC-341	Electrical and Mechanical Interface Devices.....	3
ELEC-382	Electronic Communications.....	3
ELEC-XXX	Capstone Project	3
MATH-154	Calculus II	4
POWER-260	Introduction to Fluid Power.....	2

Core Selectives (5 credits)

Select 5 credits from the following:

CS-245	Introduction to Computer Organization	3
CS-342	Survey of Programming Languages	3
CS-441	Computer Architecture.....	3
CS-448	Software Engineering.....	3
MATH-250	Differential Equations with Linear Algebra.....	3
MFGT-303	Computer Aided Manufacturing.....	3
PKG-150	Packaging Fundamentals	2
SPCOM-XXX	Advanced Speech	1-3
XXX-XXX	Any Co-op or Field Experience	1-3

Facilities

50 credits

Core Requirements (46 credits)

AEC-131	Architectural Graphics	3
AEC-237	Architectural Technology.....	3
AEC-438	Contract Requirements and Specifications.....	3
AEC-452	Environmental Systems – HVAC.....	3
AEC-453	Environmental Systems – Plumbing and Electrical	3
CHEM-353	Environmental Chemistry	3
ELEC-204	Electricity/Electronics Fundamentals	3
INMGT-300	Engineering Economics	2
INGMT-314	Industrial Enterprise Practicum.....	3
INMGT-350	Facilities Planning.....	3
INMGT-365	Project Management	3
INMGT-450	Maintenance Management.....	3
MFGT-251	Polymer and Composite Processes.....	3
MFGT-252	Material Removal and Forming Processes.....	3
MFGT-253	Joining and Casting Processes.....	3
POWER-260	Introduction to Fluid Power.....	2

Core Selectives (4 credits)

Select 4 credits from the following:

AEC-357	Site Engineering.....	2
AEC-370	Construction Estimating I	3
BUMKG-337	Purchasing.....	3
CHEM-452	Environmental Regulations Management.....	3
INMGT-120	Quality Concepts	3
INMGT-430	Employee Involvement: Work Teams	2
INMGT-462	Global Manufacturing Tour	2-3
PHYS-321	Static and Strength of Materials	4
POWER-361	Industrial Hydraulics	2
POWER-362	Industrial Hydraulics	2
RC-383	Voluntary OSHA Compliance	2-3
RC-386	Fire Protection	3
SPCOM-XXX	Advanced Speech	1-3
XXX-X49	Cooperative Education Experience	1-3

Mechanical Design 50 credits

Core Requirements (44 credits)

ENGGR-112	Principles of Engineering Drawing	3
ENGGR-113	Principles of Engineering Drawing II	2
ENGGR-436	Computer Assisted Design Problems.....	3
ELEC-341	Electrical and Mechanical Interface Devices	3
MECH-290	Mechanics of Solids.....	3
MECH-291	Mechanics of Solids II.....	3
MECH-332	Mechanical Design.....	4
MECH-337	Mechanical Design Drafting.....	2
MECH-393	Mechanics of Machinery II	3
MFGT-251	Polymer and Composite Processes.....	3
MFGT-252	Material Removal and Forming Processes.....	3
MFGT-253	Joining and Casting Processes.....	3
POWER-260	Introduction to Fluid Power.....	2

Choose one option:

<i>Option 1</i>		
RD-320	Prototype Development	3

<i>Option 2</i>		
RD-420	Research and Development	2
RD-421	Research and Development Lab.....	1

<i>Option 3</i>		
MECH-437	Mechanical Systems Development.....	3

Core Selectives (6 credits)

Select 6 credits from the following:

ENGGR-466	3-D Computer Modeling and Rendering.....	3
ELEC-340	Motors and Generators.....	2
INMGT-300	Engineering Economy	2
INMGT-430	Employee Involvement: Work Teams	2
INMGT-462	Global Manufacturing Study Tour	3
MFGT-303	Computer Aided Manufacturing.....	3
MFGT-405	Industrial Robotics	3
PKG-150	Packaging Fundamentals	2
PKG-335	Packaging Machinery.....	3
POWER-303	Mechanical Power Transmission.....	3
POWER-361	Hydraulics.....	2
POWER-362	Pneumatics.....	2
SPCOM-XXX	Advanced Speech	1-3
XXX-X49	Cooperative Education Experience	1-3

Nanotechnology 50 credits

Core Requirements (41 credits)

ENGGR-112	Principles of Engineering Drawing	3
ELEC-204	Electricity/Electronics Fundamentals	3
ELEC-260	Electrical Circuits.....	3
ELEC-271	Digital Logic and Switching.....	3
ELEC-341	Electrical and Mechanical Interface Devices	3
MECH-290	Mechanics of Solids.....	3
MFGT-251	Polymer and Composite Processes.....	3
MFGT-252	Material Removal and Forming Processes.....	3
MFGT-253	Joining and Casting Processes.....	3
POWER-260	Introduction to Fluid Power.....	2
NANO-XXX	Introduction to Nanotechnology Lab.....	2
NANO-XXX	Nano-Structures.....	3
NANO-XXX	Nano-Characterization Methods	3
NANO-XXX	Applications of Nanotechnology.....	3
NANO-XXX	Co-op/Field Experience	1

Core Selectives (9 credits)

Select 9 credits from the following:

CHEM-136	College Chemistry II	5
CHEM-325	Chemistry of Polymers	4
ELEC-272	Solid State Electronics	3
ELEC-274	Fundamentals of Microprocessors and Microcomputer Systems.....	3
INMGT-300	Engineering Economy	3
INMGT-314	Industrial Enterprise Practicum.....	3
INMGT-320	Quality Tools	3
MFGT-340	Plastics Processing	3
SPCOM-XXX	Advanced Speech	1-3
XXX-XXX	Any Co-op or Field Experience	1-3

Plastics**50 credits****Core Requirements (42 credits)**

ENGGR-112	Principles of Engineering Drawing	3
ENGGR-113	Principles of Engineering Drawing II	2
ENGGR-436	Computer Assisted Design Problems.....	3
CHEM-325	Chemistry of Polymers	4
ELEC-204	Electricity/Electronics Fundamentals	3
MECH-337	Mechanical Design Practicum.....	3
MFGT-251	Polymer and Composite Processes.....	3
MFGT-252	Material Removal and Forming Processes	3
MFGT-253	Joining and Casting Processes.....	3
MFGT-340	Plastics Processing	3
MFGT-355	Plastics Tooling	3
MFGT-470	Plastics Tooling II.....	3
PHYS-321	Statics and Strength of Materials	4
POWER-260	Introduction to Fluid Power.....	2

Core Selectives (8 credits)

Select 8-9 credits from the following:

ELEC-341	Electrical and Mechanical Interface Devices.....	3
INMGT-120	Quality Concepts	3
INMGT-300	Engineering Economy	2-3
INMGT-314	Industrial Enterprise Practicum.....	3
INMGT-320	Quality Tools	3
INMGT-430	Employee Involvement: Work Teams	2
INMGT-462	Global Manufacturing Tour	3
MECH-291	Mechanics of Solids II.....	3
MFGT-303	Computer Aided Manufacturing	3
MFGT-405	Industrial Robotics	3
PKG-150	Packaging Fundamentals	2
PKG-200	Packaging Materials.....	3
POWER-303	Mechanical Power Transmission.....	3
SPCOM-XXX	Advanced Speech	1-3
XXX-X49	Cooperative Education Experience	1-3

Production Operations**50 credits****Core Requirements (43 credits)**

ENGGR-112	Principles of Engineering Drawing	3
BUMKG-337	Purchasing.....	3
BUMKG-438	Principles of Logistics	3
ELEC-204	Electricity/Electronics Fundamentals	3
INMGT-120	Quality Concepts	3
INMGT-300	Engineering Economy	3
INMGT-305	Production and Inventory Control.....	3
INMGT-314	Industrial Enterprise Practicum.....	3
INMGT-320	Quality Tools	3
INMGT-350	Facilities Planning.....	3
INMGT-405	Production and Inventory Control Practicum.....	2
MFGT-251	Polymer and Composite Processes.....	3
MFGT-252	Material Removal and Forming Processes	3
MFGT-253	Joining and Casting Processes.....	3
POWER-260	Introduction to Fluid Power.....	2

Core Selectives (7 credits)

Select 7 credits from the following:

BUINB-260	Introduction to International Business	3
BUINB-338	International Logistics	3
BULGL-318	Business Law.....	3
ECON-421	Collective Bargaining and Labor Relations.....	2
INMGT-325	Quality Management.....	3
INMGT-430	Employee Involvement: Work Teams	2
INMGT-450	Maintenance Management	3
INMGT-462	Global Manufacturing Tour	3
MFGT-303	Computer Aided Manufacturing	3
PKG-150	Packaging Fundamentals	2
PKG-269	Distribution Packaging.....	3
RC-389	Fleet Risk Control Management.....	2
SPCOM-XXX	Advanced Speech	1-3
XXX-XXX	Any Co-op or Field Experience	1-3

Family and Consumer Sciences Education

Introduction

The Bachelor of Science degree in Family and Consumer Sciences Education prepares students to teach in elementary, middle, junior high and high school settings across the United States. The program prepares professionals who are knowledgeable regarding subject matter and content in the field of family and consumer sciences education, including life-span human development, personal and family relationships, parenting, consumer economics, food and nutrition, housing, textiles, and clothing.

General Requirements Bachelor of Science Degree

Total for graduation.....	126-127 credits
General Education	45 credits
Professional Core	37-38 credits
Professional Education	43 credits

An overall cumulative GPA of 2.75 is required for graduation.

Program Requirements

General Education

45 credits required

A. Communication Skills **8 credits**

English and Speech courses require a grade of C or better.

ENGL-101 Freshman English – Composition or	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or	
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech.....	2

B. Analytic Reasoning **6 credits**

MATH-XXX Any Mathematics	4
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Remaining courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

LIT-XXX Any Literature	1-3
HIST-210 Modern World	3
XXX-XXX Any creative or performing arts	1-3

Remaining courses may be from any of the humanities and the arts.

E. Social and Behavioral Sciences **9 credits**

ECON-210 Principles of Economics I or	
ECON-201 General Economics	3
POLS-210 American Government	3
PSYC-110 General Psychology	3

F. Natural Sciences (with Lab) **9 credits**

BIO-132 Human Biology	4
CHEM-115 General Chemistry or	
CHEM-125 Principles of Chemistry for Health Sciences	5

G. Technology **2 credits**

FN-220 Food Technology (recommended).....	2
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Teacher Education Requirements

Students proceed through a series of three benchmarks as they move toward licensure.

Benchmark I: Acceptance into Teacher Education

Teacher education students will begin fulfilling their requirements for Benchmark I as they complete their first 40 credits. Requirements of DPI Benchmark I must be met before moving from pre-education status to fully admitted status in the Family and Consumer Sciences Education program. Detailed information is online at: www.uwstout.edu/soe/students/requirements-benchl.shtml.

- ▶ Pass the Pre-Professional Skills Test (PPST)
- ▶ Attain a 2.75 cumulative grade point average
- ▶ Pass the required teacher background check
- ▶ Earn a grade of at least 2.00 (C) in ENGL-101 and ENGL-102 or ENGL-111 and ENGL-112.
- ▶ Earn a minimum grade of 2.00 (C) in SPCOM-100 Fundamentals of Speech.
- ▶ Earn a minimum grade of 2.00 (C) in FCSE-101 Introduction to Family and Consumer Sciences Education
- ▶ Complete EDUC-326 Foundations of Education
- ▶ Satisfactorily complete Benchmark I Portfolio Assessment

Benchmark II: Application for Student Teaching

Benchmark II must be completed prior to student teaching. Detailed information is online at: www.uwstout.edu/soe/students/requirements-benchl.shtml.

- ▶ Complete Application for Student Teaching form
- ▶ Maintain a 2.75 grade point average
- ▶ Pass Content Knowledge Exam (*Praxis II*)
- ▶ Receive clearance through an updated background check
- ▶ Complete a satisfactory tuberculosis (TB) test
- ▶ Receive satisfactory portfolio assessment by faculty
- ▶ Receive satisfactory rating on Benchmark II Student Interview
- ▶ Submit copies of resume to the School of Education prior to student teaching

Benchmark III: Program Completion

Benchmark III must be completed before you can be recommended for licensure. Detailed information is online at: www.uwstout.edu/soe/students/requirements-benchl.shtml.

- ▶ Complete electronic portfolio and receive a basic or higher proficiency level of assessment
- ▶ Complete all program coursework
- ▶ Meet all program-specific requirements
- ▶ Student teach at two levels: Middle School and High School.
- ▶ Receive a satisfactory student teaching assessment

Required Professional Core

38-39 credits required

APRL-140	Textiles	3
APRL-166	Apparel Construction	3
FCSE-101	Introduction to Family and Consumer Sciences	1
FCSE-380	Consumer Economics	3
FCSE-385	Family Housing	3
FN-102	Nutrition for Healthy Living	2
FN-124	Foods	4
HDFS-115	Individual and Family Relationships	3
HDFS-124	Human Development: Early Childhood	3
HDFS-215	Dynamics of Family Development	3
HDFS-313	Parent Education/Involvement	2
HDFS-365	Family Resource Management	3

Select 5-6 credits from two or more areas:

APRL-101	Introduction to Apparel Design and Development	3
APRL-211	History of Fashion — 19th Century to Present	3
APRL-274	Fashion Industry	3
APRL-355	Special Topics in Apparel Design and Manufacturing	1-3
FN-208	Management of Food Production	3
FN-260	Menu Planning and Design	2
FN-461	Multicultural Aspects of Food and Nutrition Patterns	3
HDFS-257	Lifespan Sexuality	3
HDFS-320	Divorce, Single Parent and Remarried Family	2
HDFS-325	Human Development: Middle Childhood and Adolescence	3
HDFS-332	Death and Bereavement	3
HDFS-440	Child and Family Law	3

Professional Education

43 credits required

CTE-302	Principles of Career and Technical Education	2
EDUC-326	Foundations of Education	2

The following courses may be taken only after meeting the requirements of Benchmark I and acceptance into the Family and Consumer Sciences Education from pre-education status.

EDUC-303	Educational Psychology	3
EDUC-336	Multiculturalism: Issues and Perspectives	2
EDUC-376	Field Experience — Cross Cultural Experience	1
EDUC-382	Secondary Reading and Language Development	2
EDUC-415	Classroom Management	2
FCSE-201	Teaching Methods in Family and Consumer Sciences	2
FCSE-320	Career and Technical Education Programs in FCSE or	
CTE-360	Cooperative Occupational Education	2
FCSE-341	Pre-Student Teaching in FCSE	1
FCSE-390	Curriculum and Evaluation	4
FCSE-448	Student Teaching – Family and Consumer Sciences Education	16
SPED-430	Inclusion of Students With Exceptional Needs	3

Food Systems and Technology

Introduction

The Food Systems and Technology program prepares graduates for careers in the nation's largest business-the food industry. The Food Systems and Management concentration prepares graduates to administer large quantity food production and service facilities everywhere, from cruise ships to hospitals, schools and prisons. Graduates may also manage catering operations or restaurants and delis. Entry-level positions for graduates of the Food Science concentration include assistant food scientist, quality assurance manager, food analyst, food/ingredient development team member, technical representative and government relations officer. The Food Merchandising and Distribution concentration prepares graduates for positions such as supermarket, convenience store or food discount club management; manufacturer sales; food broker; specialty food merchandising; and marketing specialist. The Food Communication concentration prepares graduates for a variety of careers including food styling, magazine or newspaper writing and editing, food and nutrition television reporter, food promotion specialist or food industry home economist. The Food Packaging concentration prepares graduates for a variety of careers in the food packaging industry including design and management as it relates and impacts the food item.

General Requirements

Bachelor of Science Degree

Total for graduation.....	126 credits
General Education	42 credits
Major Studies	42 credits
Concentration.....	42-48 credits

Work experience must be obtained through participation in the Field Experience program (*after junior year*).

All transfer credits must have a grade point of 2.0 or better. A 2.25 or better grade point average is required for graduation. All major studies courses must have a 1.67 or better grade point average.

Program Requirements

General Education

42 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I.....	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II.....	3
SPCOM-100	Fundamentals of Speech.....	2

B. Analytic Reasoning **6 credits**

MATH-120	Introductory College Mathematics I or	
MATH-154	Calculus II	4
<i>Remaining courses must be from the areas including math, logic, statistics and computer science.</i>		

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences **9 credits**

ECON-210	Principles of Economics I (recommended)	3
<i>Courses must be from three areas including anthropology, economics, geography, political science, psychology and sociology.</i>		

F. Natural Sciences (with Lab) **4 credits**

BIO-234	Physiology and Anatomy	4
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G. Technology **2 credits**

FN-222	Food Technology (recommended).....	2
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H. General Education Electives **2 credits**

Required courses from the major studies component will fulfill these requirements.

Major Studies

42 credits

BIO-306	General Microbiology	4
INMGT-400	Organizational Leadership	3
BUMKT-330	Principles of Marketing.....	3
EDUC-307	Applied Human Relations.....	2
FN-111	Food Systems and Technology Futures	1
FN-124	Foods or	
FN-240	Food Science	4
FN-208	Management of Food Production	3
FN-212	Nutrition	2-3
FN-442	Basic Sensory Analysis	3
FN-449	Cooperative Education/Internship or	
FN-497	Field Experience	2
FN-XXX	Senior Project	1-4
PKG-150	Packaging Fundamentals.....	2

Select 2 credits from the following:

ENGL-415	Technical Writing or	
SPCOM-308	Speech Skills for Business and Industry.....	2

Select 5 credits from the following:

CHEM-115	General Chemistry or	
CHEM-125	Principles of Chemistry for Health Sciences or	
CHEM-135	College Chemistry I	5

Select up to 4 credits of Major Studies Electives

XXX-XX	Electives.....	0-4
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Concentrations

43 credits required

Food Systems Management 43 credits

BUACT-206	Introduction to Financial Accounting	3
BUACT-207	Introduction - Corporate and Managerial Accounting.....	3
BUMGT-304	Principles of Management	3
FN-260	Menu Planning and Design	2
FN-310	Lifespan Nutrition.....	3
FN-420	Food Styling	3
HT-324	Quantity Food Production	4
HT-362	Food, Beverage and Labor Cost Controls	3
HT-353	Computer Systems for Food Service.....	2
HT-450	Food Service Administration	3
HT-323	Food Service Equipment.....	2
XXX-XXX	Electives *	6

Take two of the following courses:

FN-410	Food Policy Regulation and Law.....	3
FN-414	Catering or	
HT-424	Catering.....	3
FN-461	Multicultural Aspects of Food and Nutrition Patterns	3

* BIO-206 Food Service and Environmental Sanitation (1 credit) may give students sanitation certification from the Educational Foundation of the National Restaurant Association.

* ECON-215 Principles of Economics II and declaration on application may give students a Business Administration minor.

Food Science 48 Credits

INMGT-200	Production/Operations Management.....	3
INMGT-320	Quality Tools	3
FN-342	Advanced Foods	3
FN-350	Food Processing.....	3
FN-410	Food Policy Regulation and Law.....	3
FN-438	Experimental Foods	3
FN-450	Food Engineering	3
BIO-406	Food Microbiology	3
CHEM-201	Organic Chemistry I.....	4
CHEM-311	Biochemistry.....	4
CHEM-315	Food Chemistry	3
CHEM-335	Instrumental Methods of Analysis	3
STAT-320	Statistical Methods	3
MATH-153	Calculus I or	
MATH-156	Calculus and Analytic Geometry	4
PHYS-211	Introduction to Physics.....	3

Food Merchandising and Distribution 44 Credits

BUACT-206	Introduction to Financial Accounting	3
BUMKG-334	Salesmanship and Sales Management or	
BURL-229	Visual Merchandising.....	3
BUMKG-370	Principles of Advertising or	
BURL-425	Current Retail Strategies for a Differential Advantage	2
BUMKG-438	Industrial Distribution	3
FN-225	Special Topics in Food and Nutrition	1-2
FN-202	Food and Beverage Distribution Industry.....	3
FN-470	Food Distribution Operations and Control	3
FN-410	Food Policy Regulation and Law.....	3
FN-420	Food Styling	3
FN-438	Experimental Foods	3
HT-324	Quantity Food Production	4
HT-450	Food Service Administration	3
HT-323	Food Service Equipment.....	2

PSYC-377	Consumer Psychology.....	3
XXX-XXX	Electives	2

Select 3 credits from the following:

BUMGT-480	Entrepreneurship: Small Business Planning or	
BURL-431	Service Management Strategies or	
HT-362	Food, Beverage and Labor Cost Controls or	
ECON-215	Principles of Economics II.....	3

Food Communication 42 Credits

MEDIA-304	Elementary Photography	3
GCM-141	Graphic Communications and Electronic Publishing.....	3
GCM-345	Publications Production.....	3
BUMKG-334	Salesmanship and Sales Management.....	3
BUMKG-370	Principles of Advertising	3
BUMKG-479	Marketing Research	3
FN-260	Menu Planning and Design	2
FN-310	Lifespan Nutrition.....	3
FN-325	Recipe Development and Cookbook Writing	1
FN-414	Catering or	
HT-424	Catering.....	3
FN-420	Food Styling.....	3
FN-438	Experimental Foods	3
FN-461	Multicultural Aspects of Food and Nutrition Patterns	3
ENGL-XXX	Any Journalism	2-3

Select 2-3 credits from the following:

FN-342	Advanced Foods.....	3
FN-410	Food Policy and Law.....	3
FN-XXX	Any Food and Nutrition	2-3

Select 2-3 credits from the following:

MEDIA-XXX	Any Media Technology	2-3
GCM-XXX	Any Graphic Communications	2-3
BUXXX-XXX	Any Business Administration	2-3
ART-XXX	Any Art	2-3
ENGL-XXX	Any English or Journalism	2-3

Food Packaging 42 credits

BIO-406	Food Microbiology	3
CHEM-201	Organic Chemistry I.....	4
CHEM-315	Food Chemistry	3
FN-XXX	Quality Foods.....	3
FN-325	Food Packaging.....	3
FN-410	Food Policy Regulation and Law.....	3
FN-450	Food Engineering	3
MATH-154	Calculus II	4
PKG-XXX	Food Packaging Lab.....	3
PKG-200	Packaging Materials.....	3
PKG-250	Consumer Packaging Systems.....	3
PKG-335	Packaging Machinery.....	3
PKG-350	Packaging Design and Evaluation.....	2
STAT-130	Elementary Statistics	2

Game Design and Development

Introduction

The world is going digital. Entertainment is no exception. Sales of computer and video games have grown consistently over the past ten years and the industry is predicted to expand even more. In 2008, computer and video game software sales hit approximately \$11 billion, a 26 percent increase from 2007. Non-entertainment industries such as education, government, health, military, science, corporate training, first responders, and social change are also embracing the game technology. Serious games feature the use of interactive game technologies within non-entertainment sectors for training, advertising, simulation, or education.

Modern games are among the most demanding of computer programming applications, requiring knowledge of advanced mathematics

and physics which form the basis of the 3D graphics, artificial intelligence, and game engines that make up the game programs. Using core skills in art and design such as drawing, digital imaging and animation, game artists create the visual elements necessary for the game including heads-up interface components, 3D environments and 3D characters. To be successful in the industry, you must be skilled in your area of expertise (*computer science or art*), be able to work with your counterparts, and apply those skills to creating games.

The Game Design and Development curriculum is based on a firm foundation of both computer science and art. Students will develop deeper skills in either art or computer science, before joining back together in the three capstone advanced project courses. These courses simulate industry by creating games using a team environment.

Program Requirements for the Art Concentration

Total for Graduation	120 credits
General Education	43 credits
Major Studies	77 credits

General Education

43 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning **7 credits**

CS-144	Computer Science I	3
MATH-121	Introductory College Mathematics II	4

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

ART-101	Two Dimensional Design Foundations	3
LIT-208	Fiction into Film	3

Remaining course must be from one of the following areas including, art history, music appreciation, foreign language and culture, history, and philosophy.

E. Social and Behavioral Sciences **9 credits**

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **4 credits**

PHYS-250	The Physics of Light and Color.....	3
<i>Additional credit of approved natural sciences</i>		<i>1</i>

G. Technology **2 credits**

H. General Education Electives **2 credits**

Major Studies

77 credits required

Game Design and Development Core **29 credits**

ARTH-2XX	History of Interactive Media	3
CS-248	Web and Internet Programming	3
EDUC-170	Video Games and Simulations in Educational Environments	2
ENGL-415	Technical Writing	3
GDD-101	Introduction to Video and Computer Game Design and Development	3
GDD-325	Two Dimensional Game Design and Development	4
GDD-450	Three Dimensional Game Design and Development I.....	4
GDD-451	Three Dimensional Game Design and Development II.....	4
GDD-XXX	Culture and Sociology of Video Games	3

Required Art Concentration Courses **48 credits**

ART-100	Drawing I	3
ART-103	Three Dimensional Design Foundations.....	3
ART-200	Drawing II	3
ART-301	Life Drawing I	3
ARTH-222	Introduction to Art	3
DES-200	Design Theory and Methods.....	3
DES-205	Presentation Techniques	3
DES-220	Introduction to 2D Digital Imaging	3
DES-325	Multimedia Web Design	3
DES-370	Interface Design.....	3
DES-372	3D Modeling and Animation I	3
DES-373	Digital Characters	3
DES-374	3D Modeling and Animation II.....	3
DES-376	Digital Narrative I: Animation and Video for Multimedia	3
DES-377	Digital Content Design	3
DES-381	Advanced Computer Animation	3

Program Requirements for the Computer Science Concentration

Total for Graduation	120 credits
General Education	43 credits
Major Studies	77 credits

General Education

43 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning **8 credits**

CS-144	Computer Science I	3
MATH-156	Calculus and Analytic Geometry I	5

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

ART-101	Two Dimensional Design Foundations	3
LIT-208	Fiction into Film	3

Remaining course must be from one of the following areas including, art history, music appreciation, foreign language and culture, history, and philosophy.

E. Social and Behavioral Sciences **9 credits**

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **5 credits**

PHYS-281	University Physics	5
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G. Technology **2 credits**

Major Studies

77 credits required

Game Design and Development Core **29 credits**

ARTH-2XX	History of Interactive Media	3
CS-248	Web and Internet Programming	3
EDUC-170	Video Games and Simulations in Educational Environments	2
ENGL-415	Technical Writing	3
GDD-101	Introduction to Video and Computer Game Design and Development ...	3
GDD-325	Two Dimensional Game Design and Development	4
GDD-450	Three Dimensional Game Design and Development I.....	4
GDD-451	Three Dimensional Game Design and Development II	4
GDD-XXX	Culture and Sociology of Video Games.....	3

Computer Science, Math and Statistics Courses **48 credits**

CS-145	Computer Science II	3
CS-244	Data Structures.....	4
CS-245	Introduction to Computer Organization	3
CS-343	Mathematical Foundations of Computer Graphics	3
CS-3XX	Algorithms and Artificial Intelligence	3
CS-441	Computer Architecture	3
CS-442	Systems Programming.....	3
CS-443	Database Systems Manipulation and Design	3
CS-448	Software Engineering	3
MATH-157	Calculus and Analytic Geometry II.....	5
MATH-158	Calculus III.....	3
MATH-270	Discrete Mathematics	3
MATH-275	Linear Algebra.....	3
PHYS-360	Physics Modeling for Game Programmers.....	3
STAT-330	Probability and Statistics for Engineering and the Sciences	3

Golf Enterprise Management

Introduction

The B.S. in Golf Enterprise Management program provides a comprehensive and challenging academic experience that will prepare graduates who are leaders in the golf business profession. The program will offer a broad exposure to all facets of the business of golf industry through its interdisciplinary curriculum. The program includes exposure to golf industry best practices. Students are immersed in experiential learning through well-defined co-ops and internships.

Upon graduation, students will be able to analyze major trends in the golf industry, including tourism, consumer interests, course ownership and management, and golf retail businesses. Graduates will be able to distinguish the missions of principal national and international associations in the golf industry; understand golf facility operations from perspectives of resort, private, municipal, and daily fees courses; apply business, accounting, and marketing principles to meet management needs of golf enterprises; develop and apply strategies for attracting new customers and retaining existing customers of golf operations; apply the principles of turf management, soil science and environmental science to the layout, design and management of golf courses; and integrate the knowledge and skills obtained in the curriculum through practical experiences in the golf industry.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	50 credits
Electives.....	32 credits

Program Requirements

General Education

42 Credits

A. Communication Skills **8 credits**

ENGL-101	Freshman English: Composition or	
ENGL-111	Freshman English: Honors I	3
ENGL-102	Freshman English: Reading and Related Writing or	
ENGL-112	Freshman English: Honors II	3
SPCOM-100	Fundamentals of Speech*	2

B. Analytic Reasoning **6 credits**

MATH-123	Finite Math With Applications (or higher).....	4
STAT-130	Elementary Statistics	2

C. Health and Physical Education **2 credits**

PE-129	Golf.....	1
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Select remaining 1 credit from the approved course list.

D. Humanities and the Arts **9 credits**

Select 9 credits from the approved course list from three different areas.

E. Social and Behavioral Sciences **9 credits**

ECON-210	Principles of Economics I**	3
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Select remaining 6 credits from the approved course list.

F. Natural Sciences (with Lab) **4 credits**

Select 4 credits from the approved course list.

G. Technology **2 credits**

Select 2 credits from the approved course list.

H. General Education Electives **2 credits**

Select 2 additional credits from categories A, B, D, E or F.

Major Studies

50 Credits

BUACT-206	Introduction to Financial Accounting**	3
BUACT-340	Business Finance or	3
BULGL-318	Business Law or	3
HT-460	Hospitality Law and Liability	
BUMGT-304	Principles of Management** or	3
INMGT-400	Organizational Leadership	
BUMKG-330	Principles of Marketing** or	3
HT-344	Hospitality and Tourism Marketing and Sales	
BURTL-127	Basic Merchandising.....	3
GEM-101	Introduction to Golf Enterprise Management.....	1
GEM-201	Principles of Golf Enterprise Management	3
GEM-250	Turf Management for Golf Courses	3
GEM-277	Software and Technologies	3
GEM-301	Customer Development, Retention and Marketing	3
GEM-450	Environmental Golf Course Management	3
GEM-XXX	Co-op or Field Experience	
	(Two co-ops or field experiences are required)	4
PM-370	Principles of Property Management	3
HT-362	Food Service Finance and Cost Control	3
PSYC-382	Human Resource Management	3
SRVM-111	Introduction to Service Management	3

** Required courses in the Business Minor. By taking these five courses along with ECON-215 and four additional Business Minor elective credits, you can fulfill the requirements for a Business Minor.

Electives

32 Credits

Electives will be guided by advisement to meet your professional goals and objectives. You may elect to take a minor or specialization to fulfill the elective credits.

Graphic Communications Management

Introduction

UW-Stout's Bachelor of Science Degree program in Graphic Communications Management prepares managers and supervisors for the printing and publishing industry. Students develop an understanding of the production process, from design through manufacturing of a product to distribution of that product. As members of a production team, graphic communication managers work with other professionals in the industry to make important decisions on design, estimating, materials, production planning, inventory, scheduling and quality control of printed products.

Through intensive hands-on laboratory environment, the program addresses skills necessary for students to succeed in the global marketplace of print media. A strong emphasis is placed on the application of theory and laboratory experience to the solution of real world problems. This program will prepare pragmatic managers of print production with the ability to respond aggressively to the needs of the marketplace; to apply research and theory to the development of marketable print media products using efficient processes; and to design with an awareness of the realities of the manufacturing process, cost, environment and needs of the customer and society.

Students involved in Graphic Communications Management are required to enroll in an industrial work experience program for six to eight months in the printing, publishing and packaging industry to gain practical experience to bridge the gap from the academic classroom and laboratories of the university to the real world of work.

Well-rounded professionals are produced by a balanced curriculum made up of the following components: general education; professional management studies; and technical skills that apply to a selected professional emphasis area.

Three student professional organizations complement the classroom and laboratory experiences encountered by Graphic Communications Management Students. The Stout Typographical Society (STS) is production-focused organization that runs a printing business and sponsors industry speakers, golf tournaments and social events, as well as an annual three-day industry field trip. The Technical Association of the Graphic Arts (TAGA) is a research oriented organization whose members research and write technical research papers that are compiled into a technical publication and entered in a competition at an international conference each spring. Graphic Communications eXchange (GCX) is a management-oriented organization that promotes leadership and professional development in its members through a wide variety of activities.

The Graphic Communications Management program is accredited by the National Association of Industry Technology (NAIT).

Definitions

UW-Stout offers a degree program and a concentration that are similar in name. "Graphic Communications Management" and "Graphic Design" (*a concentration in the BFA in Art program*) are different, and offer students a choice of two professional areas.

Graphic Communications Management prepares supervisors and managers for the printing and publishing industry. Graphic communications managers work with other industry professionals to make decisions on design, estimating, materials, production planning, scheduling and quality control of all types of printed products and materials. Graphic communications managers need an understanding of the printing and publishing processes, including prepress, press and postpress systems.

Graphic Design encompasses all verbal and visual information produced for commercial reproduction. The graphic designer creates, selects and organizes elements to be reproduced in both print and nonprint formats. The purpose of graphic design is visual communication in a form that is attractive and easily understood. Print materials, exhibition design, video graphics, package design, signage, and corporate identification are examples of work produced by the graphic designer.

General Requirements

Bachelor of Science Degree

Total for graduation	124
General Education	49
Major Studies	63
Emphasis Area	12

Program Requirements

General Education

49 credits required

A. Communication Skills **8 Credits**

ENGL-101	Freshman English – Composition	3
ENGL-102	Freshman English – Reading and Writing	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning **6-7 Credits**

STAT-130	Elementary Statistics or	
STAT-320	Statistical Methods	2-3
MATH-121	Introductory College Mathematics II	4

C. Health and Physical Education **2 Credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 Credits**

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences **9 Credits**

ECON-201	General Economics or	
ECON-210	Principles of Economics	3

Remaining courses must be from two additional areas including anthropology, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **13 Credits**

BIO-111	Science, Society and Environment	4
CHEM-115	General Chemistry	5
PHYS-211	Introduction to Physics	4

G. Technology **2 Credits**

Major Studies

63 credits required

Professional Management Component **25 credits**

GCM-495	Graphic Communications Seminar	3
GCM-480	Graphic Communications Customer Service and Administration	3
GCM-X49	Cooperative Education Experience	2
INMGT-120	Quality Concepts	3
INMGT-200	Production Operations Management	3
INMGT-300	Engineering Economy	2
INMGT-400	Organizational Leadership	3
BUACT-201	Financial – Managerial Accounting	3
BUACT-206	Accounting I	3
BUMKG-330	Principles of Marketing	3

Technical Component **38 credits**

GCM-141	Graphic Communications	3
GCM-151	Prepress Tools and Processes	3
GCM-251	Digital Pre-Press File Creation	3
GCM-266	Digital and Offset Press Systems	4
GCM-270	Post-Press Operations and Planning	3
GCM-351	Digital Prepress Workflow Management	3
GCM-363	Package Printing	4
GCM-367	Reproduction Measurement and Control	3
GCM-380	Graphic Communications Estimating and Scheduling	3
GCM-443	Graphic Communications Practicum	3
GCM-445	Publication Production	3
GCM-470	Graphic Communications Distribution Management	3

Emphasis Areas **12 credits**

Choose a 12-credit emphasis area from the list provided by your advisor. Current areas include: Sales/Marketing, Packaging, Production Supervision, Production Operations, Industrial Safety/Loss, Quality, Digital Photography, Training and Development, Technical Writing, Layout and Design, or a customized emphasis approved by your advisor.

Hotel, Restaurant and Tourism Management

Introduction

Hotel, restaurant and tourism management is one of the largest and fastest growing industries in the United States. Each year, leisure time increases for thousands of Americans, and the demands on the hospitality industry are growing. Existing lodging and dining facilities are expanding and new businesses are developing to accommodate the increased demand for hospitality services.

UW-Stout's Hotel, Restaurant and Tourism Management majors receive a variety of training. The program includes studies in general education to provide students a flexible background, enabling them to adapt to a wide variety of situations in today's rapidly changing society. A choice of professional selectives provide students with flexibility to pursue a specialized field of study. The curriculum is designed to prepare competent, creative and responsible managers. Graduates are employed in the hospitality food and beverage industry, hotels and tourism facilities.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	49 credits
Professional Selectives	22 credits

A "C-" (1.67) or better is required for each course in the professional studies. A 2.5 grade point average is required for graduation.

Program Requirements

General Education

42 credits required

Communication Skills **8 credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech.....	2

Analytic Reasoning **6 credits**

STAT-130	Elementary Statistics	2
MATH-118	Concepts of Mathematics (or higher).....	4

Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

Humanities and the Arts **9 credits**

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

Social and Behavioral Sciences **9 credits**

ECON-210	Principles of Economics I	3
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Remaining courses must be from two or more areas including anthropology, geography, political science, psychology and sociology.

Natural Sciences (with Lab) **4 credits**

Technology **2 credits**

General Education Electives **2 credits**

Professional Studies — Major Requirements

49 credits required

Foundation **14 Credits**

HT-100	Introduction to Hospitality	2
FN-105	Food Service Sanitation	1
HT-121	Principles Foodservice Operations	2
HT-135	Lodging Systems	3
HT-140	Principles of Tourism.....	3
HT-224	Quantity Food Production	3

Operations Management **15 Credits**

ENGL-350	Business Writing	3
HT-200	Hospitality Organization Management	3
HT-350	Hospitality Diversity Management	3
HT-244	Hospitality Marketing	3
PM-280	Hospitality Facilities Management	3

Operations Leadership **12 Credits**

HT-454	Security and Risk Management	3
HT-457	Hospitality Management Strategies	3
HT-460	Hospitality Law and Liability	3
HT-461	Hospitality Employee Relations.....	3

Accounting, Revenue and Sales **15 Credits**

BUACT-206	Introduction to Financial Accounting	3
BUACT-207	Introduction to Corporate and Managerial Accounting	3
HT-345	Hospitality Sales	3
HT-362	Foodservice Finance and Cost Control	3
HT-383	Revenue Optimization.....	3

Applied Professional Development **4 Credits**

HT-452	Hospitality Professionalism	2
HT-449	Cooperative Education/Internship.....	2

Professional Selectives

22 credits required

Students select courses from focus areas, with advisement, to meet program goals. Courses at the 300 or 400 level from food and nutrition (FN), golf enterprise management (GEM), hospitality and tourism (HT), property management (PM) and service management (SRVM) may be taken to reach the 22 credit level.



Human Development and Family Studies

Introduction

The Human Development and Family Studies program is the study of human development and family life in which individuals, family and community are viewed as interrelated. A multidisciplinary approach provides content and theory to enhance the understanding of people and to develop creative approaches to serving them. Graduates of the program locate positions in human services and agency-related employment settings, and family life education in addition to being prepared for advanced study.

The program integrates academic study with significant experiential learning with individuals of all ages, families and community groups. Students are involved in observation/participation, field experience, independent study and practicum throughout the program. Hospitals, human service agencies, community groups, adolescent group homes and homes for senior citizens provide opportunities for the synthesis of practical and theoretical knowledge.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	45 credits
Major Studies	56 credits
Concentration or minor	18 credits
Electives.....	5 credits

Students must have a cumulative grade point average of 2.5 within the major studies for graduation and to register for the practicum experience.

Program Requirements

General Education

48 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I.....	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II.....	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning **6 credits**

Courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences **12 credits**

POLS-210	American Government	3
SOC-110	Introductory Sociology	3
PSYC-110	General Psychology	3

Remaining 3 credits can be taken from anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **4 credits**

G. Technology **2 credits**

H. General Education Electives **2 credits**

Courses must come from categories A, B, D, E and F.

Major Studies

49 credits required

HDFS-101	Introduction to Human Development and Family Studies	1
HDFS-115	Individual and Family Relations*	3
HDFS-124	Human Development: Early Childhood*	3
HDFS-215	Dynamics of Family Development*	3
HDFS-225	Skill Training for Individual/Family Interventions*	3
HDFS-257	Lifespan Sexuality *	3
HDFS-270	Seminar in Self Growth	3
HDFS-325	Human Development: Mid-Childhood/Adolescence*	3
HDFS-330	Human Development: Early/Middle Adulthood*	3
HDFS-335	Seminar – Culturally Diverse Individuals and Families.....	2
HDFS-336	Experience: Developing Cultural Competence	2
HDFS-340	Human Development: Late Adulthood*	3
HDFS-345	Family Health Care/Dilemmas and Decisions for Families	3
HDFS-360	Work and Family Issues*	3
HDFS-365	Family Resource Management*	3
HDFS-420	Family Research and Methodology.....	3
HDFS-450	Family Policy*	3
HDFS-456	Abuse and the Family	3
HDFS-490	Professional Issues in Human Development and Family Studies *	2
HDFS-491	Practicum in Human Development and Family Studies*.....	4

* Required to become a Certified Family Life Educator by the National Council on Family Relations. Additional required courses: HDFS-313 Parent Education, FCSE-451 Family Life Education Programs.

Student-Designed Concentration, Certification or Minor

18 credits required

Students complete the degree with selectives chosen in consultation with the program director, or any minor in consultation with the adviser.

Information and Communication Technologies

Introduction

Developed in response to place-bound professionals' need for additional education, the Bachelor of Science degree in Information and Communication Technologies is a degree completion collaborative effort between Wisconsin Technical Colleges and UW-Stout that provides flexibility for those that are place-bound or working full time. Since computers and the internet have continued to transform the global economy and society, the need for graduates with information and communication technologies skills has increased. The B.S. in Information and Communication Technologies offers a concentration in networking. The program offers a variety of distance education methods, opportunity to build on previously completed technical education, and preparation for management and leadership challenges. Students prepare for managerial and leadership opportunities, positioning them for new or changing opportunities in the workforce, increased salary potential and contribution to current employers. In addition, the program allows students to grow personally and professionally in their breadth and depth of knowledge of today's information technologies.

An A.A.S. or A.S degree in a field related to the major is desirable. To graduate from this program the student needs to complete a minimum of 32 credits from UW-Stout.

General Requirements

Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Technical Competency and/or Transfer	40 credits
Option 1: Professional Studies for degree with ICT Emphasis	40 credits
Option 2: Professional Studies for degree with Network Concentration	40 credits

Program Requirements

General Education

40 credits required

A. Communication Skills 8 Credits

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning 6 Credits

MATH-118	Concepts of Mathematics (or higher)	4
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Remaining courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education 2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts 9 Credits

Courses must be from three or more areas including art history, creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences 9 Credits

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) 4 Credits

G. Technology 2 Credits

Technical Competency and/or Transfer

40 credits

TCS-XXX, CS-XXX, MEDIA-XXX, ELEC-XXX, GCM-XXX, TECH-XXX or adviser-approved credits for transfer.

Professional Studies

40 credits

Core Requirements 22 credits

BUACT-206	Introduction to Financial Accounting	3
BUINB-260	Introduction to International Business	3
BUMKG-330	Principles of Marketing	3
BUMGT-304	Principles of Management	3
ICT-401	Information Technology Policy and Audit	3
INMGT-100	Introduction to Management	1
INMGT-365	Project Management	3
INMGT-400	Organizational Leadership	3

Option 1: Degree with ICT Emphasis 18 credits

Choose 18 credits from the following selectives:

BUMKG-350	E-Business Strategy and Practice	3
ENGL-125	Professional Writing Elements of Style	3
ENGL-225	Editing Processes and Practices	3
ENGL-247	Critical Writing	3
ENGL-343	Rhetoric of Technology	3
ENGL-385	Document Design	3
ENGL-415	Technical Writing	3
ENGL-425	Usability Design and Testing	3
ICT-103	Information and Communication Technologies	3
ICT-305	Office Automation Technology	3
ICT-309	Collaborative Computing	3
ICT-311	Information and Communication Technologies Analytics	3
ITM-133	Networking Fundamentals I	3
ITM-134	Networking Fundamentals II	3
MEDIA-360	Introduction to Media in Education and Training	2
MEDIA-375	Web Production and Distribution	3
TECH-230	Exploring Technology	2

Option 2: Degree with Network Concentration 18 credits

ITM-133	Networking Fundamentals I	3
ITM-134	Networking Fundamentals II	3
ITM-441	Scalable Internetworks	3
ITM-442	Remote Access Networks	3
ITM-443	Multi-Layer Switched Networks	3
ITM-444	Internetwork Troubleshooting	3

Information Technology Management

Introduction

The Information Technology Management program prepares graduates for leadership positions in a dynamic environment. Professionals in the field deal with a broad range of business and technical issues. The program emphasizes managerial, technical and science skill courses. The field of information technology requires application of scientific, business and technical principles together with appropriate knowledge, and supports research, marketing, design, and systems that integrate information technology.

Students apply theory to solve real-world problems in an intensive hands-on laboratory environment that is the heart of UW-Stout's teaching strategy. Emphasis is on areas of information technologies that include voice, data, and video systems.

Technical courses foster the development of understanding in systems creation, design, development, implementation, operations and management. Students take courses that provide the basic knowledge about the technical elements required in building any voice, data, and video network systems. Students completing this program have the opportunity to earn one or more of the following highly respected professional certifications: Cisco CCNA, CCDA, CCNP, CCDP, and Microsoft MCSE.

Professional studies provide a solid managerial background while humanities and social science courses introduce students to methods of communications, motivation, and supervising people. Math and physical science courses help in solving technical and economic problems found in business.

Several work experience programs have been developed. Internships, field experience, independent study and cooperative education opportunities are available. You can work for a summer or semester earning college credit as well as a salary, while gaining a personal perspective of the business and technical world of information technologies.

Information Technology Management program graduates advance into administrative and executive areas within an organization. The professional certifications earned give students a substantial competitive advantage when entering the job market.

General Requirements

Bachelor of Science Degree

Total for graduation	120
General Education	41
Major Studies	79

Program Requirements

General Education

41 credits required

A. Communication Skills

8 Credits

ENGL-101 Freshman English — Composition or	
ENGL-111 Freshman English — Honors I.....	3
ENGL-102 Freshman English — Reading and Related Writing or	
ENGL-112 Freshman English — Honors II.....	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning

7 Credits

CS-144 Computer Science I.....	3
MATH-153 Calculus I	4

C. Health and Physical Education

2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 Credits

Courses must be from three or more areas including art history, creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 Credits

ECON-210 Principles of Economics I.....	3
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Courses must be from two additional areas including anthropology, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab)

4 Credits

PHYS-211 Introduction to Physics.....	3
PHYS-212 Introduction to Physics – Lab.....	1

G. Technology

2 Credits

Major Studies

79 credits required

Management

20 credits

BUACT-206 Introduction to Financial Accounting	3
BUMGT-304 Principles of Management	3
ENGL-415 Technical Writing	3
INMGT-365 Project Management	3
INMGT-400 Organizational Leadership	3
INMGT-475 Advanced Project Management	3
SPCOM-308 Speech Skills for Business and Industry	2

Technical

48 credits

CS-145 Computer Science II.....	3
ELEC-204 Electronic Fundamentals	3
ITM-133 Networking Fundamentals I	3
ITM-134 Networking Fundamentals II	3
ITM-330 IP Telephony Design and Implementation	3
ITM-361 Workstation and Server	3
ITM-362 Server Applications	3
ITM-363 Directory Services	3
ITM-382 Network Systems Design	3
ITM-383 Introduction to Network Security.....	3
ITM-391 Wireless Systems	3
ITM-441 Scalable Internetworks	3
ITM-443 Multi-Layer Switched Networks	3
ITM-444 Internetwork Troubleshooting.....	3
ITM-484 Advanced Network Security and Auditing	3
ITM-490 ITM Capstone	3

Electives

8 credits

Electives may be chosen from any courses with the following prefixes: BUACT, BUINB, BULGL, BUMGT, BUMIS, BUMKG, BURL, CS, ELEC, INMGT, ITM, TCS, TRHRD, plus RC-381, STAT-320. ITM-499 Cooperative Education Experience is recommended. Suggested minors (may require additional credits beyond program minimum) include Business Administration, Computer Science, Technical Writing, Project Management, and Training and Human Resource Development.

Management

Introduction

The Bachelor of Science in Management program recognizes the need for lifelong learning by providing a degree completion opportunity for technical college graduates. Developed in response to place-bound professionals' need for additional education, the program is a collaborative effort between the UW Colleges, Wisconsin Technical Colleges and UW-Stout.

The curriculum provides a sequence of management courses with concentrations in the management of business, industrial, service industries, quality and human resources allowing students the flexibility to choose the track that suits their personal and professional goals. Students prepare for managerial and leadership opportunities, building on previous technical education, positioning themselves for new or changing opportunities in the workforce, increasing salary potential and contribution to current employers, and growing personally and professionally in breadth and depth of knowledge.

The program is scheduled for working professionals through evening and online class offerings, using a variety of distance education methods.

An Associate of Applied Science or Associate of Science degree in a technical field is suggested. Students should possess two or more years of technical work experience.

General Requirements

Bachelor of Science Degree

Total for graduation.....	120 credits
General Education	40 credits
Technical Emphasis	40 credits
Major Studies	22 credits
Concentration	18 credits

General Education

40 credits required

A. Communication Skills

8 Credits

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech.....	2

B. Analytic Reasoning

6 Credits

STAT-130	Elementary Statistics	2
MATH-120	Introductory College Mathematics I (or higher)	4

C. Health and Physical Education

2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 Credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 Credits

ECON-201	General Economics or	
ECON-210	Principles of Economics I.....	3

Remaining courses must be from two or more areas including anthropology, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab)

4 Credits

G. Technology

2 Credits

Technical Emphasis

40 credits required

Because each student brings different qualifications as a result of prior training and experience, the student, with the assistance of the program director, will define all 40 technical credits in terms of student and job competency needs.

Major Studies

62 credits required

Management Core

22 Credits

BUACT-206	Introduction to Financial Accounting	3
BUINB-260	Introduction to International Business	3
BUMGT-304	Principles of Management	3
ENGL-415	Technical Writing	3
INMGT-100	Introduction to Industrial Management	1
INMGT-200	Production and Operations Management or	
INMGT-210	Service Operations Management	3
INMGT-325	Quality Management	3
INMGT-400	Organizational Leadership	3

Concentrations

18 credits required

Business Management 18 Credits

BUACT-207	Introduction – Corporate and Managerial Accounting	3
BUACT-340	Business Finance	3
BULGL-318	Business Law I	3
BUMGT-490	Strategic Management and Business Policy.....	3
BUMIS-333	MIS-Decision Support Systems	3
BUMKG-330	Principles of Marketing	3

Human Resource Management 18 Credits

PSYC-381	Industrial/Organizational Psychology	3
PSYC-382	Human Resource Management	3
PSYC-403	Management of Employee Reward Systems	3
PSYC-485	Recruitment and Selection of Human Resources	3
RC-381	Occupational Safety/Loss Control	3
TRHRD-360	Training Systems in Business and Industry	3

Industrial Management 18 Credits

INMGT-300	Engineering Economy	3
INMGT-305	Resource Planning and Materials Management	3
INMGT-320	Quality Tools	3
INMGT-365	Project Management	3
INMGT-460	Industrial Management Capstone	3
RC-381	Occupational Safety/Loss Control	3

Quality Management 18 Credits

INMGT-300	Engineering Economy	3
INMGT-320	Quality Tools	3
INMGT-365	Project Management	3
INMGT-410	Six Sigma Quality Improvement Methods	3
INMGT-420	Quality Assurance – Practicum	3
INMGT-440	Lean Enterprise	3

Service Management 18 Credits

PSYC-382	Human Resource Management or	
TRHRD-360	Training Systems in Business and Industry	3
INMGT-460	Industrial Management Capstone	3
SRVM-111	Introduction to Global Service Management	3
SRVM-354	Service Marketing Management	3
SRVM-410	Electronic Service Management	3
SRVM-420	International Service Concepts	3

Manufacturing Engineering

Introduction

The Bachelor of Science degree program in Manufacturing Engineering is designed to prepare engineers as experts in the production process, from design through manufacturing. As a team member, the manufacturing engineer works with other professionals in the design of products, particularly from the point of view of the efficiency of production. They are responsible for selecting the right materials for various product applications and for determining methods used in processing raw materials into finished products. Using computers, they design and control automated systems capable of rapidly making the product. Manufacturing Engineers are part of the company's management team and make important decisions regarding production planning, inventory, scheduling and quality.

To be admitted to the B.S. in Manufacturing Engineering program, students must have graduated in the top 40 percent of their class or, for high schools that do not rank, have a cumulative grade point average of at least 3.0 on a 4.0 scale or receive a composite score of 22 or greater on the ACT or equivalent score or greater on the SAT (*ACT is preferred*). In addition, an ACT math score of at least 22 or equivalent score on the SAT is required.

Through intensive hands-on laboratory experience, which is the heart of UW-Stout's teaching strategy, the program emphasizes application of theory to solution of real world problems. Manufacturing Engineering students learn modern production tools, such as computer-aided design and manufacturing (CAD/CAM), robotics, programmable logic controllers, computer simulation of production environment and modern manufacturing management techniques. Students have opportunities to function as members of production teams as they practice concurrent product design, material selection, appropriate manufacturing method selection, and automated production systems design.

The UW-Stout Manufacturing Engineering degree is accredited by the Engineering Accreditation Commission of ABET. It is the only nationally accredited manufacturing engineering degree in Wisconsin. There are many opportunities for cooperative learning and internship experiences with regional companies, providing industrial experience and that extra "edge" when applying for jobs upon graduation.

General Requirements

Bachelor of Science Degree

Total for graduation	132
General Education	43
Major Studies	89

Program Requirements

General Education

43 credits required

A. Communication Skills

8 credits

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech.....	2

B. Analytic Reasoning

8 credits

MATH-153	Calculus I	4
MATH-154	Calculus II	4

C. Health and Physical Education

2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 credits

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab)

5 credits

CHEM-135	College Chemistry I	5
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G. Technology

2 credits

Major Studies

89 credits required

Mathematics and Basic Sciences **20 credits**

CHEM-341	Chemistry of Materials	4
STAT-330	Probability and Statistics for Engineering and the Sciences	3
MATH-250	Differential Equations With Linear Algebra	3
PHYS-281	University Physics I.....	5
PHYS-282	University Physics II	5

Engineering Core **15 credits**

MECH-293	Engineering Mechanics	3
MECH-294	Mechanics of Materials	3
MFGE-150	Introduction to Engineering Materials	3
MFGE-275	Applied Thermodynamics and Heat Transfer	2
ELEC-290	Circuits and Devices	4

Materials and Manufacturing Processes **15 credits**

MFGE-251	Polymer and Composite Processes.....	3
MFGE-252	Material Removal and Forming Processes.....	3
MFGE-253	Joining and Casting Processes.....	3
MFGE-351	Manufacturing Process Engineering I.....	3
MFGE-352	Manufacturing Process Engineering II.....	3

Process, Assembly and Product Engineering **12 credits**

MFGE-441	Design of Fixtures, Jigs and Tooling	3
MFGE-405	Capstone I: Product Design	3
CADD-112	Principles of Engineering Drawing I	3
CADD-436	Computer Assisted Design Problems.....	3

Manufacturing Integration Methods and System Design **17 credits**

MFGE-325	Computer Aided Manufacturing	3
MFGE-410	Capstone II: Manufacturing Systems Design	3
MFGE-415	Machine Vision and Robotics.....	2
MFGE-440	Design and Simulation of Manufacturing Systems	3
MFGE-363	Controls and Instrumentation	4
MECH-391	Fluid Mechanics	2

Manufacturing Competitiveness **9 credits**

INMGT-335	Lean Manufacturing Systems	4
INMGT-422	Quality Engineering	3
INMGT-300	Engineering Economy	2

Professional Selective **1 credit**

Select additional credit from list of approved professional courses.

Marketing and Business Education

Introduction

Are you creative and like to direct and plan activities for others? Are you interested in enhancing your knowledge and skills to better express your passion for marketing and business? UW-Stout's Marketing and Business Education program combines all of these interests into one program.

The disciplines of marketing and business contribute significantly to the intellectual and career development of students in an age of innovation and invention. Graduates of the program will be prepared to teach in middle, secondary and eventually post-secondary classrooms. Graduates are also prepared to enter careers in business and industry that expand on their real-world experience.

Students are certified for Marketing Education with 124 degree credits. Certification in both Marketing and Business Education is earned with 19 credits of additional coursework and student teaching.

General Requirements

Bachelor of Science Degree

Total for graduation.....	124-143 credits
General Education	42 credits
Major Studies	82-101 credits

Although it is not a requirement for graduation, students should be aware of the fact that they must acquire a minimum of 4,000 hours of occupational experience before they can be certified to teach Marketing in Wisconsin.

Students enter the program with "pre-education" status. Earning a 2.75 or better grade point average and passing the Preprofessional Skills Test will formally move them into the Marketing Education program.

Note: Students are required to maintain a 2.75 grade point average throughout the marketing education program.

Teacher Education Requirements

Students proceed through a series of three benchmarks as they move toward licensure.

Benchmark I: Acceptance into Teacher Education

Teacher education students will begin fulfilling their requirements for Benchmark I as they complete their first 40 credits. Detailed information is online at: www.uwstout.edu/soe/students/requirements-benchl.shtml.

- ▶ Pass the Pre-Professional Skills Test (PPST)
- ▶ Attain a 2.75 cumulative grade point average
- ▶ Pass the required teacher background check
- ▶ Earn a grade of at least 2.00 (C) in ENGL-101 and ENGL-102 or ENGL-111 and ENGL-112.
- ▶ Earn a minimum grade of 2.00 (C) in SPCOM-100 Fundamentals of Speech.
- ▶ Complete EDUC-326 Foundations of Education
- ▶ Complete General Education Technology requirement
- ▶ Satisfactory rating on Benchmark I Portfolio Assessment rubric
- ▶ Satisfactory rating on Benchmark I Student Interview

Benchmark II: Application for Student Teaching

Benchmark II must be completed prior to student teaching. Detailed information is online at: www.uwstout.edu/soe/students/requirements-benchl.shtml.

- ▶ Complete Application for Student Teaching form
- ▶ Maintain a 2.75 grade point average
- ▶ Pass Content Knowledge Exam (*Praxils* II)
- ▶ Receive clearance through an updated background check
- ▶ Complete a satisfactory tuberculosis (TB) test
- ▶ Receive satisfactory portfolio assessment by faculty
- ▶ Receive satisfactory rating on Benchmark II Student Interview
- ▶ Submit copies of resume to the School of Education prior to student teaching

Benchmark III: Program Completion

Benchmark III must be completed before you can be recommended for licensure. Detailed information is online at: www.uwstout.edu/soe/students/requirements-benchl.shtml.

- ▶ Complete electronic portfolio and receive a basic or higher proficiency level of assessment
- ▶ Complete all program coursework
- ▶ Meet all program-specific requirements
- ▶ Student teach at two levels: Middle School and High School.
- ▶ Receive a satisfactory student teaching assessment

Program Requirements

General Education

42 credits required

A. Communication Skills* **8 credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I.....	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II.....	3
SPCOM-100	Fundamentals of Speech.....	2

* Grade point of 2.0 (C) or better is required in each course prior to student teaching.

B. Analytic Reasoning **6 credits**

MATH-XXX	Any Mathematics	4
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Remaining courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

LIT-XXX	Any Literature	3
HIST-210	Modern World	3

Remaining courses must be from areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences ** **9 credits**

ECON-210	Principles of Economics I.....	3
POLS-210	Government.....	3
PSYC-110	General Psychology.....	3

F. Natural Sciences (with Lab) **4 credits**

Choose a biology course, and either a chemistry or physics course.

G. Technology **2 credits**

ICT-103	Information and Communication Technologies (recommended)	3
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H. General Education Electives ** **2 credits**

Courses must come from categories A, B, D, E and F.

** If students take ECON-215 Principles of Economics II as an elective, they meet the requirements for a Business Administration minor. ECON-215 is required for the Business Education certification.

Major Studies

82 - 101 credits required

Additional courses for Business Education certification are in bold.

BUACT-206	Introduction to Financial Accounting	3
BUACT-207	Introduction – Corporate and Managerial Accounting	3
BUINB-260	International Business or	
BUINB-485	International Marketing	3
BULGL-318	Business Law I.....	3
BUMGT-304	Principles of Management	3
BUMIS-333	Management Information Systems	3
BUKMG-330	Principles of Marketing.....	3
BUKMG-334	Professional Selling and Market Development	3
BUKMG-370	Principles of Advertising	3
BUMKG-479	Marketing Research.....	3
CTE-302	Principles of Career and Technical Education.....	2
CTE-360	Cooperative Occupational Education Programs	2
ECON-215	Economics II **	3
EDUC-303	Educational Psychology	3
EDUC-326	Foundations of Education.....	2
EDUC-336	Multiculturalism: Issues and Perspectives.....	2
EDUC-376	Field Experience – Cross Cultural Experience	1
EDUC-382	Secondary Reading and Language Development.....	2
INMG-400	Organizational Leadership	3
MBE-101	Introduction to Marketing and Business Education	3
MBE-202	Supervision of Marketing and Business Education Career and Technical Student Organizations	3
MBE-301	Methods for Teaching Marketing	3-4
MBE-311	Marketing and Business Education Project Method	2
MBE-312	Marketing and Business Education Pre-Student Teaching	1
MBE-401	Marketing Education Curriculum	2-3
MBE-409	Marketing Education-Student Teaching *	8-16
MBE-355	Marketing and Business Seminar.....	3
MBE-411	Business Education Methods and Curriculum.....	5
MBE-419	Business Education Student Teaching *	8
MEDIA-365	Integrated Software Applications for Instruction	3
MEDIA-366	Integrated Media Applications for Instruction	3
SPED-430	Inclusion of Students With Exceptional Needs	3
ICT-305	Office Automation Technology.....	3

* For Marketing Education certification only, 16 credits of MBE-409 Marketing Education Student Teaching are required. For Marketing and Business Education certification, students take 8 credits of both Business Education and Marketing Education student teaching, MBE-409 and MBE-419.

** ECON-215 Economics II results in a Business Education minor.

Packaging

Introduction

A packaging career today requires a thorough knowledge of materials, methods, design concepts, and machinery to develop and produce the packages that protect and preserve a product, help market the product and instruct the consumer in its proper use. UW-Stout's Bachelor of Science degree program in Packaging prepares students for technical or management responsibilities in the packaging industry to meet these needs. The program places strong emphasis on the application of theory to strengthen problem solving abilities and challenges students by providing opportunities to solve "real" packaging industry problems in classroom/laboratory settings.

The trend in the packaging industry is to hire employees who can function in more than one area at career entry. UW-Stout's Packaging program recognizes this trend by offering the student several "emphasis" options which include course and laboratory work beyond the technical core of the program. This distinguishing feature allows students to draw on other well-recognized programs offered at UW-Stout: graphic arts, graphic design, food science, business and sales, quality and manufacturing, and packaging research and development.

With the quantity and variety of products produced in the world, it is easy to understand that packaging is a dynamic multibillion dollar industry in need of well educated men and women. Graduates of the program are positioned advantageously for entry into the expanding and evolving packaging industry, as well as for further studies in the field of packaging.

General Requirements

Bachelor of Science Degree

Total for graduation.....	124
General Education	56
Major Studies	55-56
Emphasis	12-13

Program Requirements

General Education

56 credits required

A. Communication Skills

10 credits

ENGL-101	Freshman English-Composition or	
ENGL-111	Freshman English-Honors I	3
ENGL-102	Freshman English-Reading and Related Writing or	
ENGL-112	Freshman English-Honors II	3
SPCOM-100	Fundamentals of Speech.....	2

From the approved list of General Education courses, select:

SPCOM-XXX	Any advanced speech or	
XXX-XXX	Any foreign language	2

B. Analytic Reasoning

6 credits

STAT-130	Elementary Statistics	2
MATH-153	Calculus I	4

C. Health and Physical Education

2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 credits

ART-101	Two-Dimensional Design.....	3
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Remaining courses must be from at least two other areas including art history, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 credits

ECON-201	General Economics or	
ECON-210	Principles of Economics I	3

Remaining courses must be from at least two other areas including anthropology, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab)

18 credits

CHEM-135	College Chemistry I	5
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Select one Physics sequence:

PHYS-241	College Physics I and	
PHYS-242	College Physics II	10
PHYS-281	University Physics I and	
PHYS-282	University Physics II.....	10

Select 3 credits from:

BIO-XXX	Any approved General Education Biology elective	3
<i>(BIO-111 Science, Society, and the Environment is recommended)</i>		

G. Technology

2 credits

Major Studies

39-41 credits required

ENGGR-112	Engineering Graphics Fundamentals.....	3
ENGGR-210	Solid Modeling	3
RD-205	Design for Industry <i>or</i>	
GCM-141	Graphic Communications and Electronic Publishing <i>or</i>	
ELEC -204	Electricity/Electronics Fundamentals.....	3
MFGT-340	Plastics Processing <i>or</i>	
MFGT-251	Polymer and Composite Processes.....	3
PKG-150	Packaging Fundamentals	3
PKG-210	Packaging Materials: Paper, Wood, Adhesives, and Metal	3
PKG-220	Packaging Materials: Polymers and Glass	3
PKG-250	Consumer Packaging Systems.....	3
PKG-260	Distribution Packaging.....	3
PKG-335	Packaging Machinery.....	3
PKG-350	Packaging Design and Evaluation.....	3
PKG-490	Packaging Development.....	3
PKG-495	Packaging Seminar	2
ENGL-415	Technical Writing	3
PKG-X49	Cooperative Education Experience	1-3

Professional/Management

14 credits required

INMGT-320	Quality Tools	3
INMGT-200	Production/Operations Management.....	3
INMGT-300	Engineering Economy	2
INMGT-365	Project Management	3
INMGT-400	Organizational Leadership	3

Emphasis

12-13 credits required

Select 12-13 credits from an emphasis area to meet your career objectives.

Business/Sales 12 credits

BUACT-210	Financial-Managerial Accounting <i>or</i>	
BUACT-206	Introduction to Financial Accounting	2-3
BUMGT-304	Principles of Management	3
BUMIS-333	Management Information Systems-Decision Support Systems	3
BUMKG-330	Principles of Marketing.....	3
BUMKG-334	Salesmanship and Sales Management.....	3

Foods/Packaging 13 credits

FN-240	Food Science	4
FN-325	Food Packaging.....	3
FN-440	Food Packaging Lab.....	3

Select 3 credits from the following:

BIO-406	Food Microbiology	3
FN-410	Food Policy Regulation and Law.....	3
FN-442	Basic Sensory Analysis	3
FN-450	Food Engineering	3
CHEM-315	Food Chemistry	3

Manufacturing/Quality 12 credits

INMGT-220	Service Quality Assurance	3
INMGT-320	Quality Tools	3
INMGT-325	Quality Management	3

Select 6 credits from the following:

BUACT-410	Manufacturing Cost Analysis.....	3
INMGT-305	Product and Inventory Control.....	3
INMGT-330	Material Handling.....	3
INMGT-340	Time and Motion Study.....	3
INMGT-350	Facilities Planning	3
INMGT-410	Six Sigma Quality Improvement Methods.....	3
MFGT-303	Computer Aided Manufacturing.....	3
MFGT-405	Industrial Robotics	3
RC-381	Occupational Safety/Loss Control	3

Medical/Healthcare

In development

Package Printing 12 credits

GCM-151	Prepress Tools and Processes	3
GCM-251	Digital Prepress File Creation.....	2
GCM-266	Digital and Offset Press Systems.....	4
GCM-270	Postpress Operations/Planning	3
GCM-363	Package Printing	4
GCM-445	Publication Production.....	3

Packaging Design Research and Development 12 credits

MECH-290	Mechanics of Solids I.....	3
MECH-291	Mechanics of Solids II	3
MECH-393	Mechanics of Machinery II	3
PHYS-321	Statics and Strength	3-4

Select 3-5 credits from the following:

CHEM-341	Chemistry of Materials.....	4
MFGT-204	Polymer Processes	3
MFGT-405	Industrial Robotics	3
RD-320	Prototype Development and Model Making.....	3
RD-420	Research and Development <i>and</i>	
RD-421	Research and Development Laboratory	3

Packaging Graphic Design 12 credits

ART-100	Drawing I.....	3
ART-103	3-D Design	3
ARTH-222	Introduction to Art <i>or</i>	
DES-205	Presentation Techniques.....	3
DES-200	Design Theory and Methods	3
DES-210	Letter Form Design.....	3
DES-310	Graphic Design I.....	3
DES-360	Graphic Design II.....	3
DES-410	Product and Packaging Graphics.....	3

Plastics 13 credits

CHEM-325	Chemistry of Polymers	4
MFGT-341	Injection Molding Technology	3
MFGT-342	Thermoform and Blow Molding	3
MFGT-343	Extrusion Technology	3

Plastics Engineering

Introduction

The Bachelor of Science degree in Plastics Engineering will prepare students to understand the components necessary to bring Wisconsin to the forefront in the design, development, and manufacture of plastics products. For the plastics industry to grow and prosper, it will depend upon competent engineers whose education focuses on this discipline.

The program will be offered on campus to capitalize on UW-Stout's extensive laboratory facilities. The curriculum will strive for ABET-accreditation and will provide an appropriate mixture of theoretical and practical instruction. The program concentrates on the design and development of plastics products, processes, and equipment prevalent in the plastics manufacturing industry. Graduates of this program will be able to apply the principles of mathematics and science to the solution of practical problems, apply concepts of engineering analysis, design plastic products and manufacturing systems using contemporary methods, integrate sound management principles into the engineering process, practice high ethical standards, and implement technology with an awareness of important societal issues.

General Requirements

Bachelor of Science Degree

Total for graduation.....	132
General Education	43
Major Studies	89

Program Requirements

General Education

43 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning **8 credits**

MATH-153	Calculus I	4
MATH-154	Calculus II	4

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences **9 credits**

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **5 credits**

CHEM-135	College Chemistry I	5
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G. Technology **2 credits**

Major Studies

89 credits required

Mathematics and Basic Sciences **20 credits**

CHEM-325	Chemistry of Polymers	4
MATH-250	Differential Equations With Linear Algebra	3
PHYS-281	University Physics I	5
PHYS-282	University Physics II	5
STAT-330	Probability and Statistics for Engineering and the Sciences	3

Engineering Core **17 credits**

ELEC-290	Circuits and Devices	4
MECH-293	Engineering Mechanics	3
MECH-294	Mechanics of Materials	3
MFGT-150	Introduction to Engineering Materials	3
MFGE-275	Thermodynamics and Heat Transfer	2
MFGE-391	Fluid Mechanics	2

Polymer/Plastic Materials, Processes, Analysis and Testing **21 credits**

MFGT-341	Injection Molding Technology	3
PLE-180	Introduction to Plastics	3
PLE-XXX	Material Testing and Analysis	3
PLE-305	Extrusion Theory and Application	3
PLE-310	Injection Molding Theory, Design and Application	3
PLE-XXX	Transport Phenomena	3
PLE-XXX	Process Simulation and Analysis	3

Product and Production System Design **21 credits**

ENGGR-112	Engineering Graphics Fundamentals	3
ENGGR-210	Engineering Graphics Using Solid Modeling	3
MFGE-325	Computer Aided Manufacturing	3
MFGE-363	Controls and Instrumentation	4
MFGE-415	Machine Vision and Robotics	2
PLE-XXX	Capstone I: Plastics Engineering and Experimental Design	3
PLE-XXX	Capstone II: Design Development/Execution	3

Engineering and Professional Competitiveness **9 credits**

Choose 9 credits from the following selectives:

INMGT-300	Engineering Economy	2-3
INMGT-335	Lean Manufacturing Systems	4
INMGT-422	Quality Engineering	3

Professional Selective **1 credit**

PLE-3XX	Intern Experience	1-3
PLE-4XX	Cooperative Experience	1-3

Professional Communication and Emerging Media

Introduction

Professional Communication and Emerging Media is a rapidly growing profession. Development of new technologies has increased the demand for professionals who can clearly explain policies, products and services to clients and customers. UW-Stout's program integrates communication theory with coursework in a chosen applied field. Examples of applied fields include biomedical engineering, packaging, international studies, quality management, telecommunications, tourism, training and development, art and design, and business and management. Graduates of this program will have the skills to research, visualize, design, develop and oversee publication of both print and electronic documents.

Copy editing and preparation, multimedia or hypertext writing, and critical, technical and freelance writing courses prepare you to write clearly for specific audiences. In addition, courses in an applied field of your choice supply the strong technical background crucial to communicating complex ideas to different audiences. Elective courses give you the chance to explore other areas, such as photography or creative writing. All students will participate in a co-op, internship or practicum during the junior year.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	43 credits
Major Studies	81 credits

Program Requirements

General Education

43 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II or	
ENGL-113	Honors Seminar	3
SPCOM-100	Fundamentals of Speech.....	2

B. Analytic Reasoning **6 credits**

Courses must be from areas of math, logic, statistics and computer science.

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences **9 credits**

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **4 credits**

G. Technology **2 credits**

H. General Education Electives **3 credits**

Course(s) must come from categories A, B, D, E or F.

Major Studies

60 credits required

ENGL-121	Introduction to Technical Communication.....	3
ENGL-125	Elements of Style for Professional Writers	3
ENGL-225	Editing Practices and Processes	3
ENGL-247	Critical Writing	3
ENGL-312	International Technical Communication	3
ENGL-340	Structure of English	3
ENGL-371	Rhetoric and Style: Strategies of Argumentation.....	3
ENGL-385	Document Design.....	3
ENGL-388	Writing for the Internet.....	3
ENGL-415	Technical Writing	3
PHIL-235	General Ethics	3
SPCOM-312	Intercultural Communication.....	2
XXX-XXX	Foreign Language I.....	4
XXX-XXX	Foreign Language II.....	4

Concentration

21 credits

Technical Communication **21 credits**

ENGL-349	Co-operative Educational Experience or	
ENGL-437	Technical Writing Practicum	1
ENGL-425	Usability Design Testing.....	3
ENGL-435	Writing for Content Management.....	3
ENGL-471	Technical Communication and Consulting.....	3
INMG-365	Project Management	3
SPCOM-414	Interviewing	1
SPCOM-425	Informational Interviewing Skills for Professionals	1
GCM-141	Graphic Communication	3

Applied Journalism **21 credits**

ENGL-207	Writing for the Media	3
ENGL-210	Journalism Practicum	1
ENGL-218	Mass Communication	3
ENGL-330	Feature Writing.....	3
ENGL-407	Seminar in Applied Journalism.....	3
ENGL-471	Technical Communication and Consulting.....	3
GCM-141	Graphic Communication	3
MEDIA-204	Introduction to Photography	2

Digital Humanities **21 credits**

CS-144	Computer Science.....	3
CS-248	Web and Internet Programming.....	3
LOG-301	Logic.....	3
ENGL-335	Critical Approaches to Digital Humanities	3
ENGL-480	Seminar in the Digital Humanities	3
ENGL-495	Digital Humanities.....	6

Property Management

Introduction

The B.S. in Property Management provides a comprehensive and challenging academic experience that prepares graduates to be leaders in the property management profession. Property management is the administration, operation, marketing, and maintenance of real property in order to achieve the objectives of the property's owner. Property managers are in a service business and work closely with both the owners of the properties they manage and the tenants and residents who reside and work within these properties.

The field of property management is growing steadily because of three concurrent trends: (1) the simultaneous growth of the population and its requirements for space has increased the total number of all types of buildings, (2) a larger percentage of real estate is considered investment property and (3) there is increasingly wide acceptance of the fact that real estate management requires special training and education.

There is a growing sophistication and professionalism in the management of both residential and commercial property. A professional property manager has to possess a diverse skill set in the areas of finance, accounting, tenant and employee relations and laws affecting these properties. The degree program is designed to prepare students for this by drawing widely from courses in the disciplines of business, management, construction, service management, retail and hospitality.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Core Requirements	56 credits
Selectives	26 credits

Program Requirements

General Education

42 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning **6 credits**

MATH-120	Introductory College Mathematics or higher	4
STAT-130	Elementary Statistics	2

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences **10 credits**

ECON-210	Principles of Economics	3
PSYC-110	General Psychology	3
GEOG-251	Introduction to Geography and GIS	4

F. Natural Sciences (with Lab) **4 credits**

BIO-111	Science, Society and the Environment	4
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G. Technology **2 credits**

H. Electives **1 credit**

Core Requirements

82 credits required

Overview **13 credits**

PM-100	Introduction to Property Management	2
ENGL-320	Business Writing	3
BULGL-365	Principles of Real Estate	2
HT-344	Hospitality and Tourism Marketing and Sales or	
BUMKG-330	Principles of Marketing	3
PSYC-382	Human Resource Management	3

Property Management **15 credits**

PM-370	Principles of Property Management	3
PM-371	Commercial/Residential Property Development and Management .	3
PM-381	Marketing and Leasing Residential and Commercial Property	3
INMGT-450	Maintenance Management	3
PM-470	Seminar in Property Management	3

Finance **9 credits**

BUACT-206	Introduction to Financial Accounting	3
BUACT-207	Introduction to Corporate and Managerial Accounting	3
PM-362	Real Estate Market/Investment Analysis	3

Law and Ethics **6 credits**

BULGL-430	Real Estate Law	3
PM-358	Ethical Decision Making in Property Management	3

Management **9 credits**

INMGT-400	Organizational Leadership	3
HT-454	Security and Risk Mgmt. for the Hospitality Industry	3
HT-457	Hospitality Management Strategies or	
BUMGT-490	Strategic Management and Business Policy	3

Workplace **4 credits**

HT-452	Hospitality Professionalism	2
PM-449	Property Management Coop/Internship	2

Selectives

82 credits minimum required

Student are required to take a minimum of 26 credits of selectives approved by the program director to complete the overall 124 credit program requirement.



Psychology

Introduction

The discipline of Psychology is the systematic study of thought, emotions and behavior of human beings. The B.A. in Psychology at UW-Stout has, as an overriding goal, a focus on application of theories, methods and concepts for the improved condition of people in a variety of environments. The program has been designed to adhere to the American Psychological Association standards for undergraduate education that emphasizes the scientific aspects of the profession as well as the liberal arts goals of Psychology. Students acquire competencies that lead to employment wherever psychology is applied in education institutions, public and private agencies, business and industry. In addition to the major study, all students are expected to develop literacy in the arts, humanities, natural sciences and social sciences. Each student is also expected to develop and demonstrate effective communication and quantitative skills as a part of the program's requirements.

Students are guided and assisted in developing a personal program plan centered on their individual needs and career goals. With careful planning, students may include self-planned concentrations with a more focused emphasis in one of a variety of unique career paths in psychology. Students entering the program should realize that they may need to obtain graduate level education or other advanced training for certain careers as practicing professional psychologists.

General Requirements

Bachelor of Arts Degree

Total for graduation	120 credits
General Education	42 credits
Major Studies	40 credits
Minor or second area of depth	13-22 credits
Additional Liberal Studies Requirement	14 credits
Electives	6 credits

Students must attain a minimum grade point average of 2.25 in required courses for the major and a minimum grade point average of 2.5 in other courses for the major.

Program Requirements

General Education

42 credits required

A. Communication Skills **8 credits**

ENGL-101 Freshman English – Composition <i>or</i>	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing <i>or</i>	
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning **6 credits**

STAT-130 Elementary Statistics (<i>or more advanced</i>)	2
STAT-120 Introductory College Mathematics I (<i>or more advanced</i>)	4

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences **9 credits**

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **4 credits**

G. Technology **2 credits**

H. General Education Electives **2 Credits**

Courses must come from categories A, B, D, E and F.

Major Studies

42 credits required

Required Courses **20 credits**

PSYC-110 General Psychology	3
PSYC-190 Psychological Research Methods	4
PSYC-210 Introduction to Applied Psychology	3
PSYC-390 Experimental Psychology	4
PSYC-320 Psychology: Its History and Systems	3
PSYC-290 Interpreting Psychological Research	3

Psychology Domains **11-12 credits**

Select at least one course from each domain:

Learning and Cognition

PSYC-451 Children's Learning	3
PSYC-330 Psychology of Learning	3
PSYC-442 Cognitive Processes	3

Individual Differences, Personality, Social Processes

PSYC-XXX Personality	3
PSYC-270 Social Cognition and Behavior	3
PSYC-340 Psychology of Individual & Group Differences	3
PSYC-490 Psychological Measurement	3

Biological Bases

PSYC-432 Perception	3
BIO-361 Psychobiology	2
PSYC-335 Motivation and Emotion	3
PSYC-391 Applied Psychophysiological Methods	3

Developmental

PSYC-120 Psychology of Adjustment	3
PSYC-251 Child Psychology	3
PSYC-351 Children's Social Reasoning	3
PSYC-352 Adolescent Psychology	3
PSYC-372 Psychology of Sex and Gender	3

Applied **3-6 credits**

Consult with advisor for current list of selectives.

Experiential **2 credits**

PSYC-X49 Cooperative Education Experience in Psychology	1-8
PSYC-X98 Psychology Field Experience	2
PSYC-480 Individual Research Project I and	
PSYC-481 Individual Research Project II	1
PSYC-X99 Independent Study**	2-3

****Must involve research and be approved by the advisor as meeting the requirement of this category.**

Psychology Selectives

Selectives sufficient to meet minimum of credits for the major.

PSYC-100 Psychology Semester I – Foundations	1
XXX-XXX Selectives	

Consult with advisor for current listing of selectives.

Minor or Second Area of Depth

13-22 credits required

Students are expected to take a minor, specialization or self-planned concentration. The self-planned concentration (22-credit minimum) allows students to select course work and learning experiences that relate to a particular area of interest, and must be planned with an adviser and approved by a committee of at least three persons designated by the Psychology Program Committee.

Additional Liberal Studies Requirements

8 credits required

Select 5 credits from the following:

BIO-XXX Any Biology	1-4
CHEM-XXX Any Chemistry	1-5
PHYS-XXX Any Physics	1-5

Select 3 credits from the following:

ENGL-XXX Any Writing	1-3
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Electives

6 credits required

Retail Merchandising and Management

Introduction

The Retail Merchandising and Management program is designed to prepare graduates for leadership roles in corporate, regional or store-level management positions in the retail industry and support areas. Students explore the functional areas of retailing, including marketing, promotions, human resources, accounting, buying, merchandising, sourcing and logistics. They also sharpen their skills in analytical reasoning, critical thinking, problem-solving, oral and written communications. A minor in Business Administration can also be earned within the program requirements. A highlight of the program is the senior-level retail practicum or co-op/internship in which students work in management-level positions in retailing. Numerous opportunities are available for travel and study abroad experiences to enhance the educational programming.

Graduates of this program are prepared for entry-level managerial positions in merchandise buying, planning and management; store management and operations; training; human resources and e-commerce. Although specific job titles vary by organization, graduates of the program have been recruited to fill such positions as business analyst, executive team lead, sourcing specialist, department manager, assistant store manager, manager trainee, assistant buyer, pricing analyst, unit development leader, retail operations manager and visual merchandising/space management planner.

General Requirements

Bachelor of Science Degree

Total for graduation	120 credits
General Education	40 credits
Major Studies	39-40 credits
Concentration	40-41 credits

Program Requirements

General Education

40 credits required

Communication Skills

8 Credits

ENGL-101 Freshman English – Composition or	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or	
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

Analytic Reasoning

6 Credits

MATH-XXX Any approved mathematics	4
<i>Buying and Product Management concentration students should take:</i>	
MATH-123 Finite Mathematics with Applications	4
<i>Store Operations Management concentration students should take one of the following:</i>	
MATH-120 Introduction to College Mathematics I	4
MATH-121 Introduction to College Mathematics II	4
MATH-123 Finite Mathematics with Applications	4

Remaining courses must be from areas of math, logic, statistics and computer science.

Health and Physical Education

2 Credits

Courses must be from areas of health, physical education or nutrition.

Humanities and the Arts

9 Credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

Social and Behavioral Sciences

9 Credits

ECON-210 Principles of Economics I

3

Remaining courses must be from two or more areas including anthropology, geography, political science, psychology and sociology.

Natural Sciences (with Lab)

4 Credits

Technology

2 Credits

Professional Studies

39 - 40 credits required

Students must complete 500 hours of approved and verified retail work experience (with a minimum of 250 hours with any one company) before completing the senior year.

BURL-105 Introduction to Retail Merchandising and Management	1
BUACT-206 Introduction to Financial Accounting	3
BUMGT-304 Principles of Management	3
BUMKG-330 Principles of Marketing	3
BUMKG-385 Target Marketing	3
BUMKG-438 Logistics	3
BURL-127 Basic Merchandising	3
BURL-329 Retail Promotions	3
BURL-390 Merchandise Planning and Control	4
BURL-425 Current Retail Strategies	2
ECON-215 Principles of Economics II	3
PSYC-370 Interpersonal Effectiveness Training	2

Select one of the following (3 credits):

ENGL-320 Business Writing	3
ENGL-415 Technical Writing	3

Senior Capstone Selective (3-4 credits)

Select both Practicum courses or the Co-op Experience.

BURL-4XX Retail Practicum I and	
BURL-4XX Retail Practicum II	4
BURL-449 Cooperative Education Experience	3-4

Concentrations

40-41 credits required**Buying and Product Management 40-41 credits**

APRL-140	Textiles.....	3
APRL-202	Quality Analysis of Sewn Products	3
BUACT-207	Managerial Accounting.....	3
BUMIS-333	Management Information Systems	3
BUINB-260	Introduction to International Business.....	3
BURTL-212	Trend Forecasting.....	3
BURTL-395	Assortment Planning	3
BURTL-490	Advanced Merchandise Plan Control	3

Select one of the following (3 credits):

BURTL-327	Store Management.....	3
INMG-T400	Organizational Leadership.....	3
PSYC-382	Human Resource Management	3

Select one of the following (3 credits):

ENGL-247	Critical Writing.....	3
LOG-250	Critical Thinking	3
LOG-301	Introduction to Logical Thinking	3

Select one of the following (3 credits):

BURTL-319	International Economic Trends in Textiles and Clothing.....	3
BUMKG-337	Purchasing and Supply Chain Management	3
INMG-T305	Resource Planning and Materials Management	3

Optional Experience/Opportunities (by application only)

APRL-449	Retail Cooperative Education Experience.....	3-6
BURTL-477	Study Abroad – American Fashion College in London.....	16
BURTL-419	National Study Tour to Fashion Industries.....	1

Electives (7-8 credits)**Fashion Marketing****40-41 credits**

APRL-140	Textiles.....	3
APRL-202	Quality Analysis of Sewn Products	3
BURTL-212	Trend Tracking and Forecasting	3
BURTL-327	Store Management.....	3
BURTL-229	Visual Merchandising	3
BURTL-417	Social and Psychological Aspects of Clothing.....	3
PSYC-382	Human Resource Management	3

Select one of the following (3 credits):

BUINB-260	Introduction to International Business.....	3
BURTL-319	International Economic Trends in Textiles and Clothing.....	3
BUINB-367	International Management	3
BUINB-485	International Marketing.....	3

Select one of the following (2-4 credits):

SPAN-121	Practical Spanish I	2
SPAN-122	Practical Spanish II.....	2
SPAN-103	Elementary Spanish I	4
SPAN-104	Elementary Spanish II.....	4

Select one of the following (2-3 credits):

SPCOM-312	Intercultural Communications.....	2
PSYC-340	Psychology of Individual and Group Differences	3
INMG-T415	Women and Minorities in Management	2
PSYC-372	Psychology of Sex and Gender.....	3
SOC-275	Sociology of Gender Roles	3
SOC-375	Sociology of Minority Groups	3

Select from the following (2-3 credits):

TRHRD-360	Training Systems in Business and Industry	3
INMG-T400	Organizational Leadership.....	3
INMG-T430	Employee Involvement Work Teams	2
INMG-T416	People Process Culture.....	3
MSL-101	Foundations of Officership	1
MSL-102	Basic Leadership	1

Optional Experience/Opportunities (by application only)

APRL-449	Retail Cooperative Education Experience.....	3-6
BURTL-477	Study Abroad – American Fashion College in London.....	16
BURTL-419	National Study Tour to Fashion Industries.....	1

Electives (6-11 credits)

BUACT-207 Introduction to Corporate and Managerial Accounting is suggested as an elective to complete requirements for a minor in Business Administration.

Human Resource Management	40-41 credits
BUINB-367 International Management	3
BURTL-327 Store Management.....	3
INMG-400 Organizational Leadership.....	3
PSYC-379 Public Relations	2
PSYC-382 Human Resource Management	3
PSYC-403 Employee Reward Systems	3
PSYC-485 Recruitment and Selection of Human Resources	3
SPCOM-414 Interviewing	1
TRHRD-360 Training Systems in Business and Industry	3
<i>Select one of the following (2-4 credits):</i>	
SPAN-121 Practical Spanish I	2
SPAN-122 Practical Spanish II.....	2
SPAN-103 Elementary Spanish I	4
SPAN-104 Elementary Spanish II.....	4
<i>Select one of the following (2-3 credits):</i>	
SPCOM-312 Intercultural Communications	2
PSYC-340 Psychology of Individual and Group Differences	3
INMG-415 Women and Minorities in Management	2
PSYC-372 Psychology of Sex and Gender.....	3
SOC-275 Sociology of Gender Roles	3
SOC-375 Sociology of Minority Groups	3
<i>Select from the following (2-3 credits):</i>	
INMG-430 Employee Involvement Work Teams	2
INMG-416 People Process Culture.....	3
MSL-101 Foundations of Officership	1
MSL-102 Basic Leadership	1
Optional Experience/Opportunities (by application only)	
APRL-449 Retail Cooperative Education Experience.....	3-6
BURTL-477 Study Abroad - American Fashion College in London.....	16
BURTL-419 National Study Tour to Fashion Industries.....	1

Electives (8-11 credits)

BUACT-207 Introduction to Corporate and Managerial Accounting is suggested as an elective to complete the requirements for a minor in Business Administration.

Store Operations Management	40-41 credits
BUACT-207 Managerial Accounting.....	3
BURTL-229 Visual Merchandising	3
BUMIS-333 Management Information Systems	3
PSYC-382 Human Resource Management	3
BURTL-327 Store Management.....	3
SPCOM-414 Interviewing	1
INMG-400 Organizational Leadership.....	3
<i>Select one of the following (3 credits):</i>	
BUINB-260 Introduction to International Business.....	3
BUINB-367 International Management	3
BUING-485 International Marketing	3
<i>Select one of the following (2-4 credits):</i>	
SPAN-121 Practical Spanish I	2
SPAN-122 Practical Spanish II.....	2
SPAN-103 Elementary Spanish I	4
SPAN-104 Elementary Spanish II.....	4
<i>Select one of the following (2-3 credits):</i>	
SPCOM-312 Intercultural Communications	2
PSYC-340 Psychology of Individual and Group Differences	3
INMG-415 Women and Minorities in Management	2
PSYC-372 Psychology of Sex and Gender.....	3
SOC-275 Sociology of Gender Roles	3
SOC-375 Sociology of Minority Groups	3
<i>Select from the following (2-3 credits):</i>	
TRHRD-360 Training Systems in Business and Industry	3
INMG-430 Employee Involvement Work Teams	2
INMG-416 People Process Culture.....	3
MSL-101 Foundations of Officership	1
MSL-102 Basic Leadership	1
<i>Select one of the following (3 credits):</i>	
LOG-250 Critical Thinking	3
ENGL-247 Critical Writing.....	3
LOG-301 Introduction to Logical Thinking	3
Optional Experience/Opportunities (by application only)	
APRL-449 Retail Cooperative Education Experience.....	3-6
BURTL-477 Study Abroad – American Fashion College in London.....	16
BURTL-419 National Study Tour to Fashion Industries.....	1

Electives (7-10 credits)

Science Education

Introduction

The B.S. in Science Education program at UW-Stout prepares students for a career in teaching science at the middle school and secondary levels. To complete the program, students are required to take general education courses, science courses, professional education courses, and several field experiences.

Students choose a science teaching major certification in broadfield science, biology, chemistry, or physics and a science teaching minor certification in biology, chemistry, or physics. The science teaching major certifications require 28 credits of science, and the science teaching minor certifications require 18 credits of science. These courses include required and elective science courses to provide students with flexibility in pursuing a wide variety of courses in each science discipline.

The broadfield science major certification includes courses in biology, chemistry, physics, and earth science. It certifies teachers to teach any science course from grades five through ten. To teach eleventh and twelfth grade courses in biology, chemistry, or physics, science teachers must be certified in those specific subject areas with either a major or minor certification. The broadfield science major certification is recommended for those teachers most interested in teaching at the middle school level. It can also be advantageous at very small high schools where science teachers teach many different science courses.

Science teaching is a highly rewarding career that is also a high demand profession. For a successful career in science teaching, you should have an aptitude for helping others and a love of science. According to the National Education Association (NEA) and Wisconsin Department of Public Instruction (DPI), there is currently a national and state wide shortage of science teachers. Completing a BS in Science Education degree at UW-Stout will lead to a rewarding career and valuable contribution to individuals and society.

General Requirements

Bachelor of Science Degree

Total for graduation 120-130 credits
General Education 41 credits
Major Studies 79-89 credits

Teacher Education Requirements

Students proceed through a series of three benchmarks as they move toward licensure.

Benchmark I: Acceptance into Teacher Education

Teacher education students will begin fulfilling their requirements for Benchmark I as they complete their first 40 credits. Detailed information is online at: www.uwstout.edu/soe/students/requirements-benchl.shtml.

- ▶ Pass the Pre-Professional Skills Test (PPST)
- ▶ Attain a 2.75 cumulative grade point average
- ▶ Pass the required teacher background check
- ▶ Earn a grade of at least 2.00 (C) in ENGL-101 and ENGL-102 or ENGL-111 and ENGL-112.
- ▶ Earn a minimum grade of 2.00 (C) in SPCOM-100 Fundamentals of Speech.
- ▶ Earn a minimum grade of 2.00 (C) in STMED-160 Introduction to Technology and Science Education
- ▶ Complete EDUC-326 Foundations of Education
- ▶ Complete General Education Technology requirement
- ▶ Satisfactory rating on Benchmark I Portfolio Assessment rubric
- ▶ Satisfactory rating on Benchmark I Student Interview

Benchmark II: Application for Student Teaching

Benchmark II must be completed prior to student teaching. Detailed information is online at: www.uwstout.edu/soe/students/requirements-benchl.shtml.

- ▶ Complete Application for Student Teaching form
- ▶ Maintain a 2.75 grade point average
- ▶ Pass Content Knowledge Exam (*Praxis II*)
- ▶ Receive clearance through an updated background check
- ▶ Complete a satisfactory tuberculosis (TB) test
- ▶ Receive satisfactory portfolio assessment by faculty
- ▶ Receive satisfactory rating on Benchmark II Student Interview
- ▶ Submit copies of resume to the School of Education prior to student teaching

Benchmark III: Program Completion

Benchmark III must be completed before you can be recommended for licensure. Detailed information is online at: www.uwstout.edu/soe/students/requirements-benchl.shtml.

- ▶ Complete electronic portfolio and receive a basic or higher proficiency level of assessment
- ▶ Complete all program coursework
- ▶ Meet all program-specific requirements
- ▶ Student teach at two levels: Middle School and High School.
- ▶ Receive a satisfactory student teaching assessment

Program Requirements

General Education

41 credits required

A. Communication Skills **8 Credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading/Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning **7 Credits**

MATH-153	Calculus I	4
STAT-320	Statistical Methods	3

C. Health and Physical Education **2 Credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 Credits**

HIST-210	Modern World	3
LIT-XXX	Any Literature	3
XXX-XXX	Any Creative/Performing Arts	1-3
XXX-XXX	Other Humanities and Fine Arts	0-2

E. Social and Behavioral Sciences **9 Credits**

POLS-210	American Government	3
PSYC-110	General Psychology	3

Remaining course must be from areas of anthropology, economics, geography, or sociology.

F. Natural Sciences (with Lab) **4 Credits**

BIO-111	Science, Society and the Environment	4
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G. Technology **2 Credits**

Major Studies

79–89 credits required

Professional Education **13 Credits**

EDUC-303*	Educational Psychology	3
EDUC-326*	Foundations of Education	2
EDUC-336*	Multiculturalism: Issues and Perspectives	2
EDUC-376*	Field Experience – Cross Cultural Experience	1
EDUC-382*	Secondary Reading and Language Development	2
SPED-430*	Inclusion of Students with Exceptional Needs	3

Science, Technology and Mathematics Education **30 Credits**

STMED-101	Introduction to Math and Science Education	2
STMED-1XX	Pre-Student Teaching	1
STMED-260	Curriculum, Methods, and Assessment for Science and Technology	3
STMED-3XX	Pre-Student Teaching	1
STMED-390	Laboratory and Classroom Management in Science and Technology	3
STMED-XXX	Curriculum, Methods and Assessment for Science and Technology II	3
STMED-401	Capstone: Math and Science Education	1

Select 16 credits of student teaching or teaching internship from the following:

SCIED-409	Broadfield Science Student Teaching	4-16
SCIED-410	Biology Student Teaching	4-16
SCIED-411	Chemistry Student Teaching	4-16
SCIED-412	Physics Student Teaching	4-16
SCIED-413	Broadfield Science Teaching Internship	4-16
SCIED-414	Biology Teaching Internship	4-16
SCIED-415	Chemistry Teaching Internship	4-16
SCIED-416	Physics Teaching Internship	4-16

Science Courses **36-46 Credits**

*Students must complete a least one **major** science certification and one different **minor** science certification.*

Broadfield Science Major Certification

BIO-135*	Organismal Biology	4
CHEM-135*	College Chemistry I	5
CHEM-136	College Chemistry II	5
PHYS-241*	College Physics I	5
PHYS-242	College Physics II	5
PHYS-255	Meteorology	2
PHYS-258	Introduction to Geology	2

Biology Major Certification

BIO-135*	Organismal Biology	4
BIO-136	College Molecular Cell Biology I	5

Additional 19 credits of biology above the introductory level.

Chemistry Major Certification

CHEM-135*	College Chemistry I	5
CHEM-136	College Chemistry II	5

Additional 18 credits of chemistry above the introductory level.



Physics Major Certification

PHYS-241*	College Physics I	5
PHYS-242	College Physics II	5

Additional 18 credits of physics above the introductory level.

Biology Minor Certification

BIO-135*	Organismal Biology	4
BIO-136	College Molecular Cell Biology I	5

Additional 9 credits of biology above the introductory level.

Chemistry Minor Certification

CHEM-135*	College Chemistry I	5
CHEM-136	College Chemistry II	5

Additional 8 credits of chemistry above the introductory level.

Physics Minor Certification

PHYS-241*	College Physics I.....	5
PHYS-242	College Physics II.....	5

Additional 8 credits of physics above the introductory level.

** Student must earn a "C" or better in all professional education and introductory science courses.*

Special Education

Introduction

The B.S. in Special Education prepares teachers to be reflective practitioners who demonstrate knowledge, skills and dispositions relative to planning and preparation, the classroom environment, instruction, and professional responsibilities. The UW-Stout framework is compatible with the national Council for Exceptional Children (CEC) knowledge and skill base for all beginning special education teachers. Special education is founded on the philosophy of advocacy for persons with exceptionalities and their families, and of embracing and teaching to individual differences and needs. Special educators must know the characteristics of the learners they serve, possess the skills to design effective interventions, and the dispositions to practice within the standards established by CEC.

Curriculum of the program prepares teachers of students with cognitive, emotional/behavioral, and learning disabilities. Graduates of the program will be prepared to work with students with CD, E/BD, and LD, with an emphasis on Cognitive Disabilities. Graduates of the program will be prepared to work at the early childhood through middle childhood level and the early adolescence through adolescence level.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	45 credits
Major Studies	79 credits

Students must demonstrate proficiency in American Red Cross First Aid procedures, either by verifying current certification with their adviser, or by satisfactory completion of HLTH-340 ARC Standard First Aid and Personal Safety (*adding 1 credit to the program credit total*).

* Required courses with a grade point of 2.0 (C) or better. Courses in which a student earns less than the required 2.0 must be retaken and at least a 2.0 earned prior to student teaching.

Program Requirements

General Education

45 credits required

A. Communication Skills	8 credits
ENGL-101 Freshman English – Composition* <i>or</i>	
ENGL-111 Freshman English – Honors I*	3
ENGL-102 Freshman English – Reading and Related Writing* <i>or</i>	
ENGL-112 Freshman English – Honors II*	3
SPCOM-100 Fundamentals of Speech*	2
B. Analytic Reasoning	6 credits
MATH-118 Concepts of Mathematics (<i>or more advanced</i>)*	4
STAT-130 Elementary Statistics*	2
C. Health and Physical Education	2 credits
<i>Courses must be from areas of health, physical education or nutrition.</i>	

Teacher Education Framework

The University of Wisconsin-Stout's conceptual framework for teacher education is based upon a Reflective Practitioner Model that has constructivism as its theoretical base. The process of becoming a reflective practitioner follows a framework for teaching that includes: a) planning and preparation, b) classroom environment, c) instruction and d) professional responsibilities. Students proceed through a series of three benchmarks as they move toward licensure.

Benchmark I: Acceptance into Teacher Education

Teacher education students will begin fulfilling their requirements for Benchmark I: Acceptance into Teacher Education Program as they take their first 40 credits. Requirements for Benchmark I are as follows:

- ▶ Complete EDUC-326 Foundations of Education
- ▶ Complete 40 credits
- ▶ Pass the PPST
- ▶ 2.75 cumulative GPA
- ▶ Pass the required teacher background check
- ▶ Students must have earned a grade of at least 2.00 (C) in ENGL-101 and ENGL-102 or ENGL-111 and ENGL-112.
- ▶ Students must have earned a minimum grade of 2.00 (C) in SPCOM-100 Fundamentals of Speech. Complete General Education Technology requirement
- ▶ Receive three recommendations to enter into teacher education

Benchmark II: Application for Student Teaching

Benchmark II must be completed *prior* to student teaching.

- ▶ Complete electronic portfolio
- ▶ Receive satisfactory portfolio assessment by faculty
- ▶ Pass Content Knowledge Exam
- ▶ Receive clearance through an updated background check
- ▶ Attain a 2.75
- ▶ Complete a satisfactory tuberculosis test
- ▶ Submit copies of resume to the School of Education prior to student teaching
- ▶ Complete Application for Student Teaching form

Benchmark III: Program completion

Benchmark III must be completed before you can be recommended for licensure.

- ▶ Complete electronic portfolio and receive a basic or higher proficiency level of assessment
- ▶ Complete all program coursework
- ▶ Meet all program-specific requirements
- ▶ Student teach at three levels: infant/toddler/preschool, kindergarten and primary.
- ▶ Receive a satisfactory student teaching assessment

D. Humanities and the Arts **10-11 credits**

LIT-XXX	Any Literature	3
HIST-120	Early U.S. History* or	
HIST-121	Modern U.S. History*	3
HIST-210	Modern World*	3

Remaining courses must be from areas of art history, music appreciation, or performing arts.

E. Social and Behavioral Sciences **9 credits**

GEOG-104	World Geography*	3
POLS-210	American Government*	3
PSYC-110	General Psychology	3

F. Natural Sciences (with Lab) **8-9 credits**

BIO-101	Introductory Biology*	4
Select two of the following courses:		
CHEM-105	Visualizing Chemistry *	2
PHYS-151	Astronomy*	3
PHYS-211	Introduction to Physics*	3
PHYS-255	Meteorology*	2
PHYS-258	Introduction to Geology*	2

G. Technology **2 credits**

Professional Studies*

79 credits required

Professional Education Core **19 credits**

EDUC-303	Educational Psychology*	3
EDUC-326	Foundations of Education*	2
EDUC-336	Multiculturalism: Issues and Perspectives*	2
EDUC-376	Field Experience — Cross Cultural Experience*	1
EDUC-380	Reading/Language Arts: Elementary Education	3
EDUC-381	Preclinical: Elementary Education Language Arts*	1
EDUC-382	Secondary Reading and Language Development*	2
EDUC-415	Classroom Management*	2
SPED-430	Inclusion of Students with Exceptional Needs*	3

Special Education **60 credits**

HDFS-255	Lifespan Human Development or	
PSYC-352	Adolescent Psychology and	
PSYC-251	Child Psychology	3
REHAB-310	Vocational Evaluation	3
SPCOM-310	Communication disorders	3
SPED-100	Introduction to Special Education	1
SPED-300	Introduction to Cognitive Disabilities	3
SPED-301	Introduction to Learning Disabilities	3
SPED-322	Curriculum and Instruction: Severe Disabilities	2
SPED-323	Mild Disabilities: Social Studies and Science	3
SPED-324	Curriculum and Instruction: Career and Transition Education	3
SPED-326	Pre-Student Teaching: Cognitive Disabilities	2
SPED-328	Assessment for IEP/ITP	3
SPED-338	Pre-Student Teaching Children and Youth with Disabilities ..	2
SPED-420	Schools, Families, and Community Collaboration	3
SPED-440	Diagnosis and Remediation of Reading/Language/Math	4
SPED-447	Behavior Problems of Children and Adolescents	3
SPED-481	Student Teaching Special Education or	
SPED-488	Intern Teaching Special Education	16
SPED-490	Behavioral Intervention in Schools	3

Supply Chain Management

Introduction

The Bachelor of Science Degree in Supply Chain Management will prepare students for a career in the supply chain profession by providing specialized skills in an increasingly complex and highly technical field. The program integrates selected areas of engineering, business, management, operations, and processes.

The supply chain encompasses the flow of products and information across all companies from the lowest level supplier through the end customer. Supply Chain Managers focus on designing, managing, integrating and optimizing financial and operational performance of the supply chain. Key activities include: launching products, forecasting demand, managing inventory, sourcing suppliers, processing customer orders, planning and ordering materials, scheduling labor, materials and equipment, lean manufacturing, managing quality, managing logistics and transportation, warehousing, spare parts, and returns.

The program addresses knowledge, skills, and applied research essential to supply chain management, including instruction to improve customer service, minimize costs, improve quality as well as the application of best practices and the effective use of technology. Students participate in hands-on, capstone courses and internships to provide experiential learning. Efficient management of the supply chain is critical to the success of a company and students should find their skills in high demand.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Core Requirements	82 credits

Program Requirements

General Education

42 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech.....	2

B. Analytic Reasoning **6 credits**

MATH-123	Finite Math.....	4
STAT-130	Elementary Statistics	2

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences **9 credits**

ECON-210	Principles of Economics.....	3
GEOG-251	Introduction to Geography and GIS.....	4

Remaining course must be from anthropology, political science, psychology, or sociology.

F. Natural Sciences (with Lab) **4 credits**

G. Technology **2 credits**

ICT-103	Information and Communication Technology or	
MFGE-106	Impacts of Engineering Design	2-3

H. Electives **2 credits**

By taking ECON 215 as an elective, students will be eligible for a Business Minor.

Major Studies

82 credits required

Business and Management Core **28 credits**

BUMKG-100	Introduction to Supply Chain Management	1
BUACT-206	Introduction to Financial Accounting	3
BUACT-207	Intro to Corporate/Managerial Accounting	3
BULGL-318	Business Law I	3
BUMKG-330	Principles of Marketing	3
BUMIS-333	MIS Decision Support Systems	3
BUACT-340	Business Finance	3
BUMGT-304	Principles of Management	3
INMGT-400	Organizational Leadership	3
ENGL-320	Introduction to Business Writing <i>or</i>	
ENGL-415	Technical Writing	3

Supply Chain Management Core **54 credits**

Engineering, Operations and Processes

ENGGR-112	Engineering Graphics Fundamentals	3
MFGT-150	Introduction to Engineering Processes	3
INMGT-200	Production/Operations Management	3
INMGT-305	Resource Planning and Materials Management	3
INMGT-320	Quality Tools	3
INMGT-325	Quality Management	3
INMGT-365	Project Management	3
INMGT-440	Lean Enterprise	3
BUMKG-438	Principles of Logistics	3
BUINB-338	International Logistics	3
BUMKG-337	Procurement, Sourcing and SCM	3
BUMKG-458	Negotiation and Supply Chain Contracts	3

Select one of the following:

MFGT-251	Polymer and Composite Processes	3
MFGT-252	Material Removal and Forming Processes	3
MFGT-253	Joining and Casting Processes	3
POWER-260	Introduction to Fluid Power	3
ELEC-204	Electricity Fundamentals	3

Capstone Core

INMGT-314	Industrial Enterprise Practicum	3
INMGT-405	Resource Planning Practicum	3
BUMKG-439	Seminar Supply Chain Systems	3
BUMKG-XXX	Supply Chain Internship	1

Supply Chain Selectives

Take 5 credits from the following:

BUACT-335	Accounting for Management Decisions	3
RC-381	Occupational Safety Loss Control	2-3
TRHRD-360	Training Systems in Business and Industry	3
INMGT-410	Six Sigma Quality Improvement Methods	3
INMGT-350	Facility Planning	3
INMGT-475	Advanced Program Management	3

Sustainable Management

Introduction

The Bachelor of Science degree in Sustainable Management is a multidisciplinary program designed to help students gain a comprehensive understanding of the ways in which business structures, environmental processes and societal needs intersect. Corporations from across the country helped to develop the curriculum, believing in the value it will bring to their employees and their companies. The Sustainable Management program is a collaborative effort of UW-Extension and four University of Wisconsin campuses: UW-Stout, UW-River Falls, UW-Superior, and UW-Parkside. It provides students with the knowledge and skills needed to create profitable businesses, vibrant communities, and a healthy environment. The program is a 21 course, 63-credit bachelor's degree completion program designed for working professionals, with all courses delivered online.

Students who have completed the first two years of a bachelor's degree, or have an associate's degree, may apply directly to the program. Students who need to complete general education requirements may do so online through UW-Stout or the UW Colleges.

General Requirements

Bachelor of Science Degree

Total for graduation	120 credits
General Education	42 credits
Major Studies	78 credits

Program Requirements

General Education

42 credits required

A. Communication Skills **8 credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning **6 credits**

Courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education **2 credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 credits**

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences **9 credits**

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **4 credits**

G. Technology **2 credits**

H. Electives **2 credits**

Major Studies

78 credits required

Professional Preparation Electives **15 credits**

Some SMGT courses have prerequisites. If you have not completed the prerequisites necessary as part of an associate's degree or prior coursework, you will need to take courses in consultation with your program director to fulfill this requirement.

Core Requirements **63 credits**

SMGT-115	Environmental Science and Sustainability	3
SMGT-230	Triple Bottom Line Accounting for Managers	3
SMGT-235	Economics in Society and Sustainability	3
SMGT-240	Technical Writing for Sustainable Management	3
SMGT-310	Ecology for Sustainable Management	3
SMGT-315	Global Environmental Chemistry	3
SMGT-320	Energy for Sustainable Management	3
SMGT-325	Natural Resource Management	3
SMGT-330	Marketing for a Sustainable World	3
SMGT-331	Sustainable Organizational Finance	3
SMGT-332	Economics of Environmental Sustainability	3
SMGT-335	Management and Environmental Information Systems	3
SMGT-340	Organizational Behavior and Sustainability	3
SMGT-350	Operations Management and Sustainability	3
SMGT-360	Environmental and Sustainability Policy	3
SMGT-370	Logistics, Supply Chain Management, and Sustainability	3
SMGT-430	International Management for a Sustainable World	3
SMGT-435	International Development and Sustainability	3
SMGT-440	Systems Thinking	3
SMGT-460	Environment and Society	3
SMGT-495	Sustainable Management Capstone	3

Technology and Science Education

Introduction

UW-Stout is the only university or college in the state of Wisconsin offering a Bachelor of Science degree combining Technology and Science Education, offering students a unique opportunity. Students will participate in a collaborative, interdisciplinary degree program that prepares them as teachers in the overlapping fields of science and technology. Coursework in the program leads to a dual teaching certification in technology education with a major or minor certification in biology, chemistry, or physics. To fulfill the requirements of the program, students will complete general education, technology, science, and education courses. Students will also complete required pedagogical courses specifically in technology and science education. Pre-student teaching experiences in both middle and high school classrooms as well as a semester-long student teaching experience will be required.

General Requirements

Bachelor of Science Degree

Total for graduation.....	137 credits
General Education	41 credits
Major Studies	96 credits

Program Requirements

General Education

41 credits required

A. Communication Skills 8 credits

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II or	
ENGL-113	Honors Seminar I	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning 7 credits

MATH-153	Calculus I	4
STAT-320	Statistical Methods	3

C. Health and Physical Education 2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts* 9 Credits

LIT-XXX	Any Literature	3
XXX-XXX	Any Creative/Performing Arts	3

*Remaining course must be from areas including art history, creative arts, history, literature, music appreciation, performing arts or philosophy. * Either HIST-210 Modern World must be taken under this category or ANTH-220 Cultural Anthropology must be taken under Category E.*

E. Social and Behavioral Sciences * 9 Credits

POLS-210	American Government	3
PSYC-110	General Psychology	3

*Remaining course must be from areas of anthropology, economics, geography, political science, psychology or sociology. * See previous note under Category D.*

Teacher Education Requirements

Students proceed through a series of three benchmarks as they move toward licensure.

Benchmark I: Acceptance into Teacher Education

Teacher education students will begin fulfilling their requirements for Benchmark I as they complete their first 40 credits. Detailed information is online at: www.uwstout.edu/soe/students/requirements-benchI.shtml.

- ▶ Pass the Pre-Professional Skills Test (PPST)
- ▶ Attain a 2.75 cumulative grade point average
- ▶ Pass the required teacher background check
- ▶ Earn a grade of at least 2.00 (C) in ENGL-101 and ENGL-102 or ENGL-111 and ENGL-112.
- ▶ Earn a minimum grade of 2.00 (C) in SPCOM-100 Fundamentals of Speech.
- ▶ Earn a minimum grade of 2.00 (C) in STMED-160 Introduction to Technology and Science Education
- ▶ Complete EDUC-326 Foundations of Education
- ▶ Complete General Education Technology requirement
- ▶ Satisfactory rating on Benchmark I Portfolio Assessment rubric
- ▶ Satisfactory rating on Benchmark I Student Interview

Benchmark II: Application for Student Teaching

Benchmark II must be completed prior to student teaching. Detailed information is online at: www.uwstout.edu/soe/students/requirements-benchI.shtml.

- ▶ Complete Application for Student Teaching form
- ▶ Maintain a 2.75 grade point average
- ▶ Pass Content Knowledge Exam (*Praxis II*)
- ▶ Receive clearance through an updated background check
- ▶ Complete a satisfactory tuberculosis (*TB*) test
- ▶ Receive satisfactory portfolio assessment by faculty
- ▶ Receive satisfactory rating on Benchmark II Student Interview
- ▶ Submit copies of resume to the School of Education prior to student teaching

Benchmark III: Program Completion

Benchmark III must be completed before you can be recommended for licensure. Detailed information is online at: www.uwstout.edu/soe/students/requirements-benchI.shtml.

- ▶ Complete electronic portfolio and receive a basic or higher proficiency level of assessment
- ▶ Complete all program coursework
- ▶ Meet all program-specific requirements
- ▶ Student teach at two levels: Middle School and High School.
- ▶ Receive a satisfactory student teaching assessment

F. Natural Sciences (with Lab) 4 credits

BIO-111 Science, Society and Environment 4

*Note: Students must also complete a physical science course.***G. Technology 2 credits****Major Requirements****96 credits required****Education 13 credits***Grade of "C" or better required for all courses.*

EDUC-303	Education Psychology	3
EDUC-326	Foundations of Education.....	2
EDUC-336	Multiculturalism: Issues and Perspective.....	2
EDUC-376	Field Experience: Cross-cultural.....	1
EDUC-382	Secondary Reading and Language.....	2
SPED-430	Inclusion of Students with Exceptional Needs.....	3

Technology Teacher Education Courses 33 credits*Grade of "C" or better required for all courses.*

STMED-160	Introduction to Technology and Science Education	3
STMED-260	Curriculum, Methods and Assessment for Science and Technology Education	3
STMED-XXX	Pre-Student Teaching	1
STMED-390	Laboratory and Classroom Management in Science and Technology	3
STMED-409	Student Teaching	16
STMED-XXX	Advanced Curriculum Methods and Assessment for Technology Education.....	3
TECED-325	Technology for Elementary School Children	2
STMED-340	Middle School Technology Education	2

The Designed World 32 credits

AEC-172	Construction Technology	3
ELEC-204	Electricity/Electronics Fundamentals.....	3
GCM-141	Graphic Communications.....	3
INMGT-314	Industrial Enterprise Practicum	3
MFGT-110	Materials and Manufacturing Processes	3
MFGT-204	Polymer Processes	3
RD-205	Design for Industry	3
TRANS-XXX	Trans and Energy.....	3
XXX-XXX	Mechatronics.....	2

Take one of the following courses:

MFGT-202	Welding and Casting Processes	3
MFGT-203	Machining Metal Forming Processes	3

Take one of the following courses:

AEC-131	Architectural Graphics	3
CADD-112	Principles Engineering Drawing	3

Science Courses 18 credit minimum*Choose at least one **major** or one **minor** science certification from the list below:***Biology Major Certification (28 credits)**

BIO-135	Organismal Biology	4
BIO-136	College Molecular Cell Biology I	5
BIO-332	Genetics.....	3
BIO-350	Ecology.....	3

*Choose 13 additional credits of approved biology selectives above the introductory level.***Chemistry Major Certification (28 credits)**

CHEM-135	College Chemistry I.....	5
CHEM-136	College Chemistry II	5
CHEM-201	Organic Chemistry.....	4
CHEM-331	Quantitative Analysis	3

*Choose 11 additional credits of approved chemistry selectives above the introductory level.***Physics Major Certification (28 credits)**

PHYS-241	College Physics I.....	5
PHYS-242	College Physics II.....	5
PHYS-250	The Physics of Light and Color	3
ELEC-260	Electrical Circuits.....	3

*Choose 12 additional credits of approved physics selectives above the introductory level.***Biology Minor Certification (18 credits)**

BIO-135	Organismal Biology	4
BIO-136	College Molecular Cell Biology I	5

*Choose 9 additional credits of approved biology selectives above the introductory level.***Chemistry Minor Certification (18 credits)**

CHEM-135	College Chemistry I	5
CHEM-136	College Chemistry II	5

*Choose 8 additional credits of approved chemistry selectives above the introductory level.***Physics Minor Certification (18 credits)**

PHYS-241	College Physics I	5
PHYS-242	College Physics II	5

Choose 8 additional credits of approved physics selectives above the introductory level.

Technology Education

Introduction

Technology Education is a Bachelor of Science degree program consisting of general, professional and technical course work that leads to teaching certification in all 50 states. Students who complete the B.S. in Technology Education may be eligible for credits relative to Project Lead the Way, a K-12 pre-engineering teaching initiative. Although the program is designed to lead to an education degree, graduates have also found challenging career opportunities in fields related to communication, construction, manufacturing and transportation. More than 32 credits of technical requirements provide students with hands-on experiences using computers, robots, electronics, and with more conventional equipment used in processing materials, transportation, construction and processing information. Course work is enriched by involvement with professional organizations and professional activities.

General Requirements

Bachelor of Science Degree

Total for graduation	128 credits
General Education	43-44 credits
Major Studies	84 credits

Program Requirements

General Education

43-44 credits required

A. Communication Skills **8 Credits**

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II or	
ENGL-113	Freshman English – Honors Seminar I	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning **6 Credits**

MATH-121	Introductory College Mathematics II (or higher level)	4
STAT-XXX	Any Statistics	2

C. Health and Physical Education **2 Credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts* **9 Credits**

LIT-XXX	Any Literature	3
XXX-XXX	Any Creative/Performing Arts	3

*Remaining course must be from areas including art history, creative arts, history, literature, music appreciation, performing arts or philosophy. * Either HIST-210 Modern World must be taken under this category or ANTH-220 Cultural Anthropology must be taken under Category E.*

E. Social and Behavioral Sciences * **9 Credits**

POLS-210	American Government	3
PSYC-110	General Psychology	3

*Remaining course must be from areas of anthropology, economics, geography, political science, psychology or sociology. * See previous note under Category D.*

Teacher Education Requirements

Students proceed through a series of three benchmarks as they move toward licensure.

Benchmark I: Acceptance into Teacher Education

Teacher education students will begin fulfilling their requirements for Benchmark I as they complete their first 40 credits. Detailed information is online at: www.uwstout.edu/soe/students/requirements-benchl.shtml.

- ▶ Pass the Pre-Professional Skills Test (PPST)
- ▶ Attain a 2.75 cumulative grade point average
- ▶ Pass the required teacher background check
- ▶ Earn a grade of at least 2.00 (C) in ENGL-101 and ENGL-102 or ENGL-111 and ENGL-112.
- ▶ Earn a minimum grade of 2.00 (C) in SPCOM-100 Fundamentals of Speech.
- ▶ Earn a minimum grade of 2.00 (C) in TECED-160 Introduction to Technology Education
- ▶ Complete EDUC-326 Foundations of Education
- ▶ Complete General Education Technology requirement
- ▶ Satisfactory rating on Benchmark I Portfolio Assessment rubric
- ▶ Satisfactory rating on Benchmark I Student Interview

Benchmark II: Application for Student Teaching

Benchmark II must be completed prior to student teaching. Detailed information is online at: www.uwstout.edu/soe/students/requirements-benchl.shtml.

- ▶ Complete Application for Student Teaching form
- ▶ Maintain a 2.75 grade point average
- ▶ Pass Content Knowledge Exam (*Praxis II*)
- ▶ Receive clearance through an updated background check
- ▶ Complete a satisfactory tuberculosis (*TB*) test
- ▶ Receive satisfactory portfolio assessment by faculty
- ▶ Receive satisfactory rating on Benchmark II Student Interview
- ▶ Submit copies of resume to the School of Education prior to student teaching

Benchmark III: Program Completion

Benchmark III must be completed before you can be recommended for licensure. Detailed information is online at: www.uwstout.edu/soe/students/requirements-benchl.shtml.

- ▶ Complete electronic portfolio and receive a basic or higher proficiency level of assessment
- ▶ Complete all program coursework
- ▶ Meet all program-specific requirements
- ▶ Student teach at two levels: Middle School and High School.
- ▶ Receive a satisfactory student teaching assessment

F. Natural Sciences (with Lab) 8 Credits

BIO-111 Science, Society and the Environment4

Choose the following PHYS courses or others at a higher level:

PHYS-211 Introduction to Physics3

PHYS-212 Introduction to Physics Lab 1

G. Technology 2 Credits

Major Studies

84 credits required

Professional Education 13 credits

Grade of "C" or better required for all courses.

EDUC-303 Educational Psychology 3

EDUC-326 Foundations of Education 2

EDUC-336 Multiculturalism: Issues and Perspectives 2

EDUC-376 Field Experience – Cross Cultural Experience 1

EDUC-382 Secondary Reading and Language Development 2

SPED-430 Inclusion of Students with Exceptional Needs 3

Technology Teacher Education Courses 33 credits

Grade of "C" or better required for all courses.

STMED-160 Introduction to Technology and Science Education3

STMED-260 Curriculum, Methods and Assessment
for Science and Technology Education 3

STMED-XXX Pre-Student Teaching 1

STMED-390 Laboratory and Classroom Management in Science and Technology 3

STMED-4XX Advanced Curriculum Methods
and Assessment for Technology Education..... 3

TECED-325 Technology for Elementary School Children 2

TECED-340 Middle School Technology Education2

TECED-409 Student Teaching 16

The Designed World 34 credits

AEC-172 Construction Technology 3

ELEC-204 Electricity/Electronics Fundamentals 3

GCM-141 Graphic Communications 3

INMGT-314 Industrial Enterprise Practicum 3

MFGT-110 Materials and Manufacturing Processes3

MFGT-204 Polymer Processes 3

RD-205 Design for Industry 3

TECED-XXX Project Lead the Way Gateway to Technology Seminar1

TECED-XXX Project Lead the Way
Introduction to Engineering Design Seminar1

TRANS-XXX Trans and Energy..... 3

XXX-XXX Mechatronics..... 2

Take one of the following courses:

MFGT-202 Welding and Casting Processes 3

MFGT-203 Machining Metal Forming Processes 3

Take one of the following courses:

AEC-131 Architectural Graphics 3

ENGGR-112 Principles Engineering Drawing 3

Advanced Technical Selectives 4 credits

All Technology Education students are required to meet with their advisor to plan their Advanced Technical Selectives. The purpose of this requirement is to provide the student with an opportunity to create more depth of understanding and skill within technical areas that are likely to be part of their teaching responsibilities at the secondary level. Some courses or sequences of courses may provide a student the opportunity to seek certifications by outside accrediting bodies such as Project Lead the Way. Technical college transfers need to meet with an advisor to gain approval of technical transfer courses.

Vocational Certification

A student who wishes to become certifiable to teach an advanced level occupational skills course in Wisconsin must complete this degree program, a course in Principles of Career and Technical Education, and a course in Organization and Administration of Cooperative Education Programs. The student must also have a minimum of 2,000 hours of related work experience.

Vocational Rehabilitation

Introduction

The main objective of this program is to provide the field of rehabilitation with baccalaureate level personnel who have the competencies necessary to help persons with disabilities optimize their vocational potential. A general listing of these competencies includes:

1. Knowledge of the history, philosophy and development of the rehabilitation movement; knowledge of the rehabilitation process as it exists in various settings, including supported environments, rehabilitation organizations, private rehabilitation, vocational rehabilitation agencies; knowledge of mental, physical and social disabilities plus the vocational limitations of these disabilities; knowledge of, and ability to utilize community resources to assist persons with disabilities; knowledge of, and ability to relate to allied professions: medicine, psychology, social work, physical therapy; and knowledge of, and ability to utilize occupational information and career planning methods.
2. Elementary skill in the use of vocational evaluation techniques, elementary skill in work adjustment and counseling techniques, and elementary skill in utilizing job placement and follow-up procedures for persons with disabilities.
3. Ability to interact effectively with persons with disabilities. This could include persons with physical, emotional and social disabilities such as mental illness, mental retardation, blindness, deafness, alcoholism, epilepsy, and those who have committed criminal offenses.

The graduates of this program are employed in community-based rehabilitation programs, rehabilitation organizations, vocational rehabilitation agencies, private rehabilitation, correctional centers, business and industry, adult day centers, adolescent treatment programs and services, mental health clinics, halfway houses, and a variety of other settings serving persons with disabilities. Students who complete Special Education Certification are endorsed for Wisconsin licensure to teach students with cognitive disabilities, grades 6-12. Opportunities for advancement to supervisory and administrative positions are excellent. Graduate study in rehabilitation is available in more than 80 colleges and universities.

Students must select their concentration option by the end of the first semester of their junior year. Students who do not complete a concentration must submit a written plan showing development of a coherent selection of coursework consistent with the objectives of the degree. The plan must be submitted and approved by the program director by the end of the first semester of the junior year.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	55 credits
Concentration	22-25 credits
Electives	2-5 credits

Students who are taking the Special Education Certification concentration should turn to that section for program requirements. Students taking any of the other concentrations should refer to the program requirements that follow here.

Program Requirements for Vocational Rehabilitation

General Education

42 credits required

A. Communication Skills

8 Credits

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3*
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3*
SPCOM-100	Fundamentals of Speech	2*

B. Analytic Reasoning

6 Credits

Courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education

2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 Credits

Courses must be from three or more areas including art history, creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 Credits

PSYC-110	General Psychology	3
<i>Remaining courses must be from three or more areas including anthropology, economics, geography, political science and sociology.</i>		

F. Natural Sciences (with Lab)

4 Credits

BIO-132	Human Biology	4
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G. Technology

2 Credits

H. General Education Electives

2 Credits

Courses must come from categories A, B, D, E and F.

**Minimum grade of 2.0 is required; course must be repeated if minimum grade is not earned.*

Major Studies

55 credits required

A minimum grade of 2.0 is required in all rehabilitation studies. After earning 90 credits, students must maintain a 2.5 grade point average in rehabilitation studies to continue in the degree program.

Required Courses (34 credits)

BIO-220	Physiology of Disabilities	3
COUN-405	Introduction to Counseling Skills	3
REHAB-101	Introduction to Rehabilitation.....	3
REHAB-102	Community Resources.....	3
REHAB-205	Rehabilitation Practicum	3
REHAB-230	Psycho-Social Aspects of Disabilities.....	3
REHAB-310	Vocational Evaluation	3
REHAB-401	Principles and Techniques of Caseload Management	2
REHAB-410	Job Placement Processes.....	3
REHAB-420	Psychological Testing – People with Exceptional Need	3
REHAB-470	Work Adjustment Services.....	3
REHAB-X98	Field Experience in Rehabilitation	2

Rehabilitation Studies

Select 21 credits, including a minimum of two courses from Disability Selectives and two from Service Delivery Selectives.

Disability Selectives

Select at least two courses from the following:

COUN-494	Counseling Older Persons or	
HDFS-225	Skill Training for Individual and Family Interventions	3
PSYC-361	Abnormal Psychology	3
PSYC-370	Interpersonal Effectiveness.....	2
REHAB-355	Rehabilitation of the Older Disabled Worker.....	2-3
REHAB-305	Sign Language I.....	3
REHAB-306	Sign Language II.....	3
REHAB-325	Rehabilitation and Sensory Disability	3
REHAB-320	Rehabilitation and Chemical Dependency	3
REHAB-321	Rehabilitation of Public Offenders	3
REHAB-480	Advanced Rehabilitation Practicum	2-6
REHAB-482	Sexuality and Disability	2
REHAB-327	Psychiatric Rehabilitation	2
SCOUN-447	Behavior Problems of Children.....	2
SOC-360	Sociology of Juvenile Delinquency	3
SOCWK-440	Social Work with Groups.....	3
SPCOM-310	Introduction to Communication Disorders	3
SPED-300	Introduction to Individuals With Cognitive Disabilities	3
SPED-301	Learning Disabilities	3
SPED-430	Inclusion of Students with Exceptional Needs.....	3

Service Delivery Selectives

Select at least two courses from the following:

REHAB-300	Special Topics in Rehabilitation	1-2
REHAB-309	Introduction to Biofeedback.....	3
REHAB-350	Independent Living	2
REHAB-360	Assistive Technology	2
REHAB-361	Microcomputer Applications in Rehabilitation	2
REHAB-365	Laboratory in Rehabilitation Technology	2
REHAB-402	Rehabilitation Program Operations.....	3
REHAB-452	Group Processes in Rehabilitation Settings	2
REHAB-460	Rehabilitation in the Private Sector	3
REHAB-461	Forensics for the Rehabilitation Professional	2
REHAB-462	Disability Management.....	3
REHAB-483	Vocational Counseling Issues.....	1-3
REHAB-488	Developing Collaborative Partnerships	3
REHAB-X49	Rehabilitation Cooperative Education Experience	2-6

REHAB-X99	Independent Study	1-3
SOCWK-205	Introduction to Social Work	3
SOCWK-420	Child and Family Agencies.....	3
SOCWK-430	Social Casework Methods	3
SPED-324	Curriculum and Instruction:Career and Transition Education.....	3

Concentrations

22–25 credits required

A minimum grade of 2.0 is required in all concentration courses.

Community-Based Rehabilitation

22 credits

Required Courses (15 credits)

BUMKG-330	Principles of Marketing.....	3
CTE-334	Performance Analysis	2
REHAB-350	Independent Living	2
REHAB-360	Assistive Technology	2
REHAB-402	Management of Non-Profit Organizations	3
REHAB-480	Advanced Rehabilitation Practicum.....	3

Selectives (7 credits)

BULGL-318	Business Law I.....	3
ECON-420	Labor Economics.....	3
ECON-421	Collective Bargaining and Labor Relations.....	2
INMGT-400	Organizational Leadership	3
PSYC-370	Interpersonal Effectiveness.....	2
PSYC-379	Public Relations.....	2
REHAB-462	Disability Management.....	3
REHAB-460	Rehabilitation in the Private Sector	3
REHAB-X99	Independent Study.....	1-3
REHAB-488	Developing Collaborative Partnerships	3
SOC-340	Sociology of Work.....	3
SPCOM-200	Persuasive Speaking.....	2
TECH-340	Future of Work.....	1-2

Independent Living Rehabilitation

22 credits

Required Courses (15 credits)

COUN-406	Peer Supervisory Experience.....	1
PSYC-370	Interpersonal Effectiveness.....	2
REHAB-350	Independent Living	2
REHAB-360	Assistive Technology	2
REHAB-480	Advanced Rehabilitation Practicum.....	3
REHAB-482	Sexuality and Disability	2
REHAB-488	Developing Collaborative Partnerships	3

Selectives (7 credits)

FCSE-385	Family Housing.....	3
FN-102	Nutrition For Healthy Living	2-3
HDFS-115	Individual/Family Relations.....	3
HDFS-255	Lifespan Human Development.....	3
HDFS-340	Human Development: Late Adulthood.....	2
PSYC-371	Introduction to Health Psychology	3
REHAB-452	Group Processes in Rehabilitation Settings	2
REHAB-X99	Independent Study.....	1-3
SOC-215	Sociology of the Family	3
SOCWK-205	Introduction to Social Work	3
SOCWK-420	Child and Family Agencies.....	3

Recreational Rehabilitation 22 credits*Required Courses (14 credits)*

HLTH-340	ARC Standard First Aid and Personal Safety	2
HLTH-355	Kinesiology	3
REHAB-480	Advanced Rehabilitation Practicum.....	3
PSYC-371	Introduction to Health Psychology	3
SOC-325	Sociology of Leisure	3

Selectives (8 credits)

HLTH-101	Discovering Wellness	1
HLTH-365	Physiology of Exercise	3
PE-265	Physical Activities for Young Children	2
PE-352	Theory and Management of Coaching	2
PE-362	Psycho-Social Aspects of Athletics	2
PE-480	Coaching Youth Athletes.....	2
PE-XXX	Any Physical Education (activity)	1
REHAB-X99	Independent Study.....	1-3

Note: No PE activity course may be counted to fill both GE health/physical education requirements and restricted concentration selectives.

Rehabilitation Counseling 22 credits*Required Courses (15 credits)*

COUN-406	Peer Supervisory Experience.....	1
HDFS-225	Skill Training for Individual/Family Interventions.....	3
PSYC-120	Psychology of Adjustment.....	3
REHAB-480	Advanced Rehabilitation Practicum.....	3
REHAB-320	Rehabilitation and Chemical Dependency	3
REHAB-452	Group Processes in Rehabilitation Settings.....	2

Selectives (7 credits)

COUN-494	Counseling Older Persons	2-3
HDFS-310	Family Stress, Coping and Adaptation	1
HDFS-332	Death and Bereavement	1
HDFS-370	Introduction to Marriage and Family Therapy	3
PSYC-370	Interpersonal Effectiveness.....	2
PSYC-466	Alcoholism and Family Systems Intervention.....	2
PSYC-484	Introduction to Behavior Modification.....	2
REHAB-321	Rehabilitation of Public Offenders	3
REHAB-482	Sexuality and Disability	2
REHAB-483	Vocational Counseling Issues.....	2
REHAB-488	Developing Collaborative Partnerships	3
REHAB-X99	Independent Study.....	1-3
SOC-215	Sociology of the Family	3
SOC-340	Sociology of Work	3
SOCWK-420	Child and Family Agencies.....	3

Rehabilitation Technology 22 credits*Required Courses (15-16 credits)*

ART-100	Drawing I or	
ENGGR-112	Engineering Drawing I	2-3
RC-387	Human Factors Engineering.....	3
RD-205	Design for Industry.....	3
REHAB-480	Advanced Rehabilitation Practicum.....	3
REHAB-360	Assistive Technology	2
REHAB-365	Laboratory in Rehabilitation Technology	2

Selectives (6-7 credits approved by adviser)

AEC-170	Light Construction Methods	2
APRL-381	Functional Clothing Design.....	3
CADD-234	Computer Assisted Design and Drafting or	
ENGGR-280	Engineering Graphics Applications	3
CS-140	Computer Concepts	2
DES-200	Design Theory and Methods	3
ELEC-204	Electricity-Electronics Fundamentals.....	3
HLTH-355	Kinesiology	3
MFGT-102	Manufacturing Materials and Processes I.....	3
MFGT-103	Manufacturing Materials and Processes II.....	3
MFGT-230	Metal Machining Technology.....	3
POWER-260	Introduction to Fluid Power.....	2
POWER-362	Industrial Pneumatics.....	2
RC-381	Occupational Safety/Loss Control	2-3
REHAB-315	Rehabilitation and Criminal Justice	3
RC-383	Voluntary OSHA Compliance	2-3
REHAB-X99	Independent Study.....	1-3
REHAB-361	Microcomputer Applications in Rehabilitation	2

Criminal Justice 25 credits*Required Courses (15 credits)*

REHAB-315	Rehabilitation and Criminal Justice	3
REHAB-321	Rehabilitation of Public Offenders	3
REHAB-488	Developing Collaborative Partnerships	3
REHAB-480	Advanced Rehabilitation Practicum.....	3
SOC-315	Criminology	3

Choose one Disability Selective (3 credits)

PSYC-361	Abnormal Psychology	3
SOC-360	Sociology of Juvenile Delinquency	3
SPED-301	Learning Disabilities	3
SPED-300	Introduction to Individuals with Cognitive Disabilities.....	3

Choose one AODA Selective (2-3 credits)

PSYC-466	Alcohol and Family Systems Intervention.....	2
REHAB-333	Adolescent Substance Use/Abuse	2
REHAB-320	Rehabilitation and Chemical Dependency	3

Choose one Prevention/Intervention Selective (2-3 credits)

CTE-474	Adult Education	2
HDFS-225	Skill Training for Individual/Family Interventions.....	3
REHAB-452	Group Processes in Rehabilitation Settings	2
SOCWK-430	Social Casework Methods	3

Choose one Diversity Selective (2-3 credits)

SOC-375	Sociology of Minority Groups.....	3
HDFS-335	Seminar: Culturally Diverse Individuals and Families	2
EDUC-307	Applied Human Relations	2
EDUC-336	Multiculturalism Issues and Perspectives.....	2

Psychiatric Rehabilitation 22 credits

PSYC-120	Psychology of Adjustment.....	3
PSYC-361	Abnormal Psychology or	
SCOUN-447	Behavior Problems of Children.....	3
PSYC-466	Alcohol and Family Systems or	
REHAB-327	Psychiatric Rehabilitation	3
REHAB-333	Adolescent Substance Use and Abuse	2
REHAB-480	Advanced Practicum: Psychiatric Rehabilitation.....	3
REHAB-462	Disability Management.....	3
REHAB-452	Group Processes in Rehabilitation Settings	2
REHAB-488	Developing Collaborative Partnerships	3

Social Work 22 credits

HDFS-225	Skill Training for Individual/Family Interventions.....	3
HDFS-255	Lifespan Human Development.....	3
HDFS-335	Seminar: Culturally Diverse Individuals and Families	2
REHAB-480	Advanced Rehabilitation Practicum.....	2
SOCWK-205	Introduction to Social Work	3
SOCWK-420	Child and Family Agencies.....	3
SOCWK-430	Social Casework Methods	3
SOCWK-440	Social Work with Groups.....	3

Substance Abuse Counseling 22 credits*Required Courses (18 credits)*

REHAB-333	Adolescent Substance Use and Abuse	2
REHAB-320	Rehabilitation and Chemical Dependence	3
REHAB-327	Psychiatric Rehabilitation	3
REHAB-452	Group Processes	2
REHAB-488	Collaborative Partnerships	3
REHAB-482	Sexuality and Disability	2
REHAB-480	Advanced Practicum	3

Selectives (4 credits)

RC-371	Alcohol, Drugs and Accident Prevention	3
COUN-494	Counseling the Older Person or	
REHAB-355	Rehab of the Older Worker	2-3
HDFS-420	Family Research and Methodology	3
PSYC-370	Interpersonal Effectiveness	2
SPED-300	Introduction to Cognitive Disability	3
SPED-301	Introduction to Learning Disability	3
REHAB-315	Rehabilitation and Criminal Justice	3
SOC-360	Sociology of Juvenile Delinquency	3
PSYC-333	Drugs and the Brain	3

Individualized 22 credits*Required Concentration Courses – none.*

Selectives – 22 credit block chosen in conjunction with and approved by program director.

Electives

2-5 credits required

**Program Requirements for the
Special Education Certification Concentration**

Leads to Wisconsin #806 Licensure.

General Education

45 credits required

A. Communication Skills* 8 Credits

ENGL-101	Freshman English – Composition or	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing or	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech.....	2

B. Analytic Reasoning* 6 Credits

MATH-118	Concepts of Mathematics	4
STAT-130	Elementary Statistics.....	2

C. Health and Physical Education 2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts 10 Credits

LIT-XXX	Any Literature.....	3
HIST-210	Modern World*.....	3
HIST-120	Early U.S. History* or	
HIST-121	Modern U.S. History*	3

Remaining course must be from the areas of art history, music appreciation or performing arts.

E. Social and Behavioral Sciences* 9 Credits

POLS-210	American Government*.....	3
PSYC-110	General Psychology	3
GEOG-104	World Geography*.....	3

F. Natural Sciences (with Lab) 8 Credits

BIO-101	Introductory Biology	4
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Select two of the following:

CHEM-105	Visualizing Chemistry.....	2
PHYS-151	Astronomy	3
PHYS-211	Introduction to Physics.....	3
PHYS-255	Meteorology.....	2
PHYS-258	Geology	2

G. Technology 2 Credits

Special Education Certification

79 credits required

Professional Education* 13 credits

EDUC-303	Educational Psychology	3
EDUC-326	Foundations of Education.....	2
EDUC-336	Multiculturalism: Issues and Perspectives.....	2
EDUC-376	Field Experience – Cross Cultural Experience.....	1
EDUC-382	Secondary Reading and Language Development.....	2
SPED-430	Inclusion of Students With Exceptional Needs	3

Major Studies* 66 credits

COUN-405	Introduction to Counseling Skills	3
EDUC-415	Classroom Management	2
HDFS-255	Lifespan Human Development.....	3
PSYC-352	Adolescent Psychology or	
REHAB-101	Introduction to Rehabilitation.....	3
REHAB-102	Community Resources.....	3
REHAB-230	Psycho-Social Aspects of Disabilities.....	3
REHAB-310	Vocational Evaluation	3
REHAB-401	Principles and Techniques of Caseload Management	2
REHAB-410	Job Placement Processes.....	3
REHAB-420	Psychological Testing – People with Exceptional Need	3
SPCOM-310	Introduction to Communication Disorders	3
SPED-100	Introduction to Special Education.....	1
SPED-481	Student Teaching Youth With Cognitive Disabilities	16
SPED-300	Introduction to Individuals With Cognitive Disabilities	3
SPED-3522	Curriculum and Instruction: Functional Living Skills.....	2
SPED-323	Curriculum and Instruction: Academic Skills	3
SPED-324	Curriculum and Instruction: Career and Transition Education.....	3
SPED-326	Practicum in Special Education	2
SPED-328	Assessment for Individual Educational/Transitional Plans.....	3
SPED-XXX	School, Family, Community Collaboration	3

See program director for grade point average, student teaching, and practicum requirements that lead to certification by UW-Stout. Students must adhere to policies and criteria established for completion of education programs and certification established by the School of Education.

* Courses require a grade of “C” (2.0) or better.

Minors

Introduction

Minors are defined as either “studies in the discipline” or as “teaching.” Teaching minors are those approved by the State Department of Public Instruction for licensure. Requirements for teaching minors include an education major, passing score on the content exam for the minor, portfolio evidence of competence in the Wisconsin Teacher

standards and the minor’s content, and student teaching experience in the minor field. Contact the School of Education for information regarding teaching minors. Approval forms and minor program plans are available from the School of Education office and the department offices offering the minor.

Applied Foreign Language

Department of Speech Communication,
Foreign Language, Theatre and Music

Before declaring the minor, student must have approval of an individual course plan. The applied project requires signatures of both major and minor program advisers. Until a specific course is developed, the applied project will be an independent study.

26 credits are required.

XXX-XXX	Elementary Foreign Language A	8
XXX-XXX	Intermediate Foreign Language A	8
XXX-XXX	Elementary Foreign Language B	8
XXX-XXX	Applied project linking foreign language with student's major program	2

Applied Photography

Department of Apparel and Communication Technologies

24 credits are required.

Required Courses

GCM-141	Graphic Communications.....	3
PHOTO-204	Exploring Photography	3
PHOTO-311	Advertising and Public Relations Photography	3
PHOTO-340	History of Photography	3
PHOTO-495	Professional Portfolio Development	3

Choose three of the following selectives:

PHOTO-305	Photo Processes	3
PHOTO-330	Video Production	3
PHOTO-411	Photojournalism and Documentary Photography	3
PHOTO-412	Nature Photography	3
PHOTO-430	Video/Cinema Practicum	3
PHOTO-441	Fashion and Glamour Photography	3
PHOTO-451	Product Photography	3

Art

Department of Art and Design

22 credits are required.

Required Courses

ART-100	Drawing I.....	3
ART-101	Fundamentals of Design.....	3
ARTH-222	Introduction to Art.....	3

Selectives

The additional 13 selective credits may be accumulated for a general or a concentrated minor. For a general art minor, students may select 13 credits from ART-XXX, DES-XXX or ARTH-XXX. For a concentrated minor, students select 13 credits in one specific art or design area such as art history, art metals or printmaking. At least seven of the 13 credits must be from ART-XXX, DES-XXX or ARTH-XXX. A minimum of six credits must be completed at UW-Stout to receive an Art minor. A minimum grade of “C” (2.0) is required in all courses.

Biology

Department of Biology

20 credits required

Select one of the following:

BIO-101	Introductory Biology.....	4
BIO-111	Science, Society, and the Environment.....	4
BIO-132	Human Biology	4
BIO-135	Organismal Biology	4

Additional courses to complete 20 credits will be selected in consultation with a biology minor adviser and with the approval of the biology department chair. Selected courses must include two laboratory courses, at least one of which must be at the 300 level or above. A minimum of six credit must be taken in the UW-Stout Biology Department. A maximum of 14 transfer credits may be applied to the minor. A minimum grade of “C” is required for all courses applied to the Biology minor.

Biomedical Instrumentation

Department of Engineering and Technology

22 credits are required

CHEM-125	Principles of Chemistry for Health Sciences or	
CHEM-135	College Chemistry I	5
BIO-234	Physiology and Anatomy.....	4
ELEC 204	Electricity Electronics Fundamentals or	
ELEC 260	Electrical Circuits or	
ELEC 290	Circuits and Devices or	
CEE 205	Circuit Analysis and Design.	3-4
ELEC-XXX	Biomedical Instrumentation.....	3
BIO-358	Introductory Pharmacology or	
BIO-360	Introduction to Neuroscience or	
BIO-362	Advanced Physiology	2-3

Selectives

Additional courses to complete 22 credits will be selected from a list provided by the adviser.

Business Administration

Department of Business

22 credits are required.

Required Courses

BUACT-206	Introduction to Financial Accounting.....	3
BUACT-207	Introduction – Corporate and Managerial Accounting.....	3
BUMGT-304	Principles of Management.....	3
BUMKG-330	Principles of Marketing.....	3
ECON-210	Principles of Economics I	3
ECON-215	Principles of Economics II	3

Selectives

Select 4 credits from the list supplied by the department.

Chemistry

Department of Chemistry

22 credits are required.

Required Courses

CHEM-125	Principles of Chemistry for Health Sciences or	
CHEM-135	College Chemistry I.....	5
CHEM-136	College Chemistry II.....	5
CHEM-201	Organic Chemistry I.....	4

Select one of the following courses:

CHEM-204	Organic Chemistry II Lecture	3
CHEM-331	Quantitative Analysis	3
CHEM-335	Instrumental Methods of Analysis	3
CHEM-301	Physical Chemistry Lecture and	3
CHEM-303	Physical Chemistry Laboratory.....	1

Selectives

Additional departmental offerings to complete 22 credits will be selected.

A minimum grade of "C" (2.0) is required in all chemistry courses applied toward the chemistry minor.

Coaching

Department of Physical Education

24 credits are required.

Area I: Medical Emergencies (5 credits required)

HLTH-340	ARC Standard First Aid and Personal Safety.....	2
HLTH-350	Prevention and Care of Athletic Injuries.....	3

Area II: Principles and Psycho-Social Foundations of Coaching

(4 credits required)

PE-352	Theory and Management of Coaching.....	2
PE-362	Psycho-Social Aspects of Athletics.....	2

Area III: Methods and Strategies of Coaching (2 credits required)

PE-401	Coaching Gymnastics	2
PE-460	Coaching Basketball	2
PE-461	Coaching Football.....	2
PE-465	Coaching Competitive Swimming	2
PE-470	Coaching Baseball	2
PE-471	Coaching Track and Field	2
PE-477	Coaching Tennis	2
PE-478	Coaching and Officiating Volleyball.....	2
PE-479	Coaching Wrestling	2
PE-480	Coaching Young Athletes.....	2
PE-481	Coaching Ice Hockey.....	2
PE-483	Coaching Softball	2
PE-483	Coaching Soccer.....	2

Area IV: Kinesiological and Biomechanical Foundations of Coaching

(7 credits required)

BIO-132	Human Biology or	
BIO-134	Physiology and Anatomy	4
HLTH-355	Kinesiology.....	3

Area V: Physiological Foundations of Coaching (3 credits required)

HLTH-365	Physiology of Exercise	3
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Area VI: Practicum in Coaching (required)

PE-490	Practicum in Coaching.....	1-3
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Area VII: Selectives

Select additional courses from the list supplied by the department for the 24-credit minor.

Cognitive Neuroscience

Department of Psychology

20 credits are required

Required courses

CNS-200	Introduction to Cognitive Neuroscience.....	3
CNS-201	Introduction to Cognitive Neuroscience Laboratory	1
BIO-360	Introduction to Neuroscience.....	3
PSYC-391	Applied Psychophysiological Methods	3
CNS-XXX	Independent Study.....	1-2
CNS-XXX	Special Topics in Cognitive Neuroscience	1-4

Selectives

PSYC-442	Cognitive Process or	
PSYC-432	Perception.....	3

Electives

Select additional courses to complete 20 credits from the approved list supplied by the advisor. Psychology Majors: No more than 50 percent of credits in the minor can be in PSYC courses.

Computer Science

Department of Mathematics, Statistics and Computer Sciences

22 credits are required.

Required Courses

CS-144	Computer Science I.....	3
CS-145	Computer Science II.....	3
CS-245	Introduction to Computer Organization	3
CS-244	Data Structures	4

Selectives

Select additional courses to complete 22 credits from the approved list supplied by the department. Grades for courses taken for the minor must be 2.0 (C) or better.

Construction Safety/Risk Control

Department of Engineering and Technology

Construction Department

18 credits are required.

Required Courses (11 credits)

RC-388	Construction Safety	3
RC-392	Construction Risk Management	3
RC-383	Occupational Safety Health and Environmental Standards	3
AEC-449	Cooperative Education Experience	2

Selectives

Select 7 credits for selectives from program plan sheet supplied by adviser. The minor is specifically limited to Construction majors or those who have taken the eight construction course sequence containing the integrated Risk Control content.

Disability Services

Department of Rehabilitation and Counseling

22 credits are required.

Required Courses

REHAB-101	Introduction to Rehabilitation.....	3
REHAB-102	Community Resources	3
REHAB-230	Psychosocial Aspects of Disability.....	3

Selectives

Choose 10 credits of restricted professional selectives. See the adviser for available offerings.

REHAB-205	Rehabilitation Practicum.....	3-4
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Can be taken **only** after all 19 other rehabilitation credits are complete.

Economics

Department of Social Sciences

20-21 credits are required.

Required Courses

ECON-210	Principles of Economics I	3
ECON-215	Principles of Economics II	3
ECON-325	Economic and Business Statistics or	
STAT-130	Elementary Statistics or	
STAT-320	Statistical Methods.....	2-3
ECON-410	Microeconomics	3
ECON-415	Macroeconomics.....	3

Selectives

Select six additional credits from the approved course list supplied by the department.

Teaching Certification

In addition to the 20-21 credits required for the economics minor, students seeking teaching certification must take:

EDUC-304	Secondary Curriculum Methods and Assessment	2
EDUC-305	Secondary Student Teaching	2

English Literature

Department of English and Philosophy

15 credits are required.

Take one or more courses in each of the following categories:

Historical Perspective (3 or more credits)

LIT-250	Classical and Biblical Literature in Translation	3
LIT-248	American Literature	3
LIT-350	Modern British Literature.....	3
LIT-260	Modern American Literature	3
LIT-301	English Literature	3
LIT-306	Shakespeare.....	3
LIT-450	Studies in Literature	1-3

Cultural and Societal Perspectives (3 or more credits)

LIT-202	The Family in Literature.....	3
LIT-208	Fiction Into Film	3
LIT-255	Recent World Literature	3
LIT-272	Woman Writers.....	3
LIT-273	American Multicultural Literature	3
LIT-281	Recent American Literature.....	3
LIT-450	Studies in Literature	1-3

Genre (3 or more credits)

LIT-203	American Poets	3
LIT-205	The Short Story.....	3
LIT-286	Detective Fiction	3
LIT-300	Children's Literature	3
LIT-304	American Folklore	3
LIT-280	Best Sellers.....	3
LIT-285	Science Fiction	3
LIT-450	Studies in Literature	1-3

At least six credits in the minor must be taken at UW-Stout. A student must have a 2.75 grade point average in those English and Literature courses presented for the minor.

English Writing

Department of English and Philosophy

15 credits are required

Select 12-15 credits from the following:

ENGL-207	Writing For the Media	3
ENGL-320	Business Writing.....	3
ENGL-245	Creative Writing	3
ENGL-246	Informational Writing	3
ENGL-247	Critical Writing.....	3
ENGL-356	Creative Writing Workshop.....	3
ENGL-399	Independent Study.....	1-2
ENGL-418	Writing on Issues.....	1
ENGL-325	Copy Editing and Preparation.....	2
ENGL-499	Independent Study.....	1-2
ENGL-415	Technical Writing	3
ENGL-346	Research Reporting.....	3

Selectives

Select 0-3 additional credits to complete the minor from the approved list supplied by the department.

At least six credits in the minor must be taken at UW-Stout. A student must have a 2.75 grade point average in those English courses presented for the minor.

Environmental Studies

Department of Biology

22-23 credits required

Required courses:

BIO-111	Science, Society and the Environment.....	4
BIO-350	Ecology	3
BIO-444	Problem Solving in Environmental Studies.....	3

Select at least 4 credits of additional science courses from the following:

BIO-242	Botany.....	4
BIO-252	Zoology	4
BIO-255	The Biology of Fly Fishing.....	2
BIO-489	Advanced Biology Experience	1-4
CHEM-115	General Chemistry	5
CHEM-135	College Chemistry I	5
CHEM-353	Environmental Chemistry.....	3
CHEM-452	Environmental Regulations Management	3
PHYS-257	Introduction to Geology and Soil Mechanics.....	3
PHYS-258	Introduction to Geology	2

Select one course from each of the following areas for a total of 8-9 credits:

College of Arts, Humanities and Social Sciences

ANTH-220	Cultural Anthropology	3
GEOG-104	World Geography.....	3
PHIL-235	General Ethics	3
SOC-225	Social Problems.....	3

College of Science, Technology, Engineering and Mathematics

BUMKG-308	Marketing for Non-Profits.....	2
MEDIA-412	Nature Photography.....	3

College of Education, Health and Human Sciences

PSYC-281	Environmental Psychology.....	3
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Other courses may be used in these categories as long as they commit a significant portion of the curriculum to the topics of sustainability, environmental citizenship, and other human-based interactions with the environment.

Food Technology

Department of Food and Nutrition

35 credits are required.

Required Courses

INMG-200	Production and Operations Management	3
PKG-150	Packaging Fundamentals	2
FN-124	Foods or	
FN-240	Food Science	4
FN-212	Nutrition.....	3
FN-342	Advanced Foods.....	3
FN-438	Experimental Foods.....	3
FN-350	Food Processing.....	3
BIO-306	General Microbiology.....	4
CHEM-311	Biochemistry.....	4
CHEM-315	Food Chemistry	3
PHYS-211	Introduction to Physics.....	3

Gaming Entertainment Management

Department of Hospitality and Tourism

23 credits are required.

Required Courses

BUACT-206	Introduction to Financial Accounting.....	3
HT-315	Gaming Management.....	3
HT-316	Casino Operations Management.....	3
HT-317	Psychosocial Issues in Gaming.....	3
HT-360	Tourism for Persons With Disabilities.....	2
HT-418	Casino Tourism.....	3

Select one course from each of the following groups:

HT-344	Hospitality and Tourism Marketing and Sales or	
BUMKG-330	Principles of Marketing or	
SRVM-354	Services Marketing Management.....	3
HT-460	Hospitality Industry Law and Liability or	
BULGL-318	Business Law I	3

Geographic Information Systems

Department of Social Sciences

20 credits are required

Required Courses

GEOG-251	Introduction to Geography and Geographic Information Systems	4
GEOG-351	Intermediate Geographic Information Systems.....	4
GEOG-451	Advanced Geographic Information Systems	4
GEOG-452	Geographic Information Systems Research Applications.....	2-4

Selectives

Additional courses to complete a minimum of 20 credits will be selected in consultation with your adviser. Selectives include at least two courses 200 level or above that enhance the tools of GIS for individual programs. A minimum grade of iCi is required for all courses applied to the Geographic Information Systems minor.

Health and Fitness

Department of Physical Education and Athletics

18-21 credits are required.

Required Courses

HLTH-375	Organization and Administration of Health Education.....	3
HDFL-115	Individual and Family Relations.....	or
HDFL-728	Fmaily Life Issues.....	2-3
FN-102	Nutrition for Healthy Living	2
BIO-132	Human Biology	or
BIO-234	Physiology and Anatomy	4
HLTH-360	Personal Health and Wellness	3
HLTH-340	ARC Standard First Aid and Personal Safety.....	2
	(or current certification)	
HT-390	Recreation and Fitness Management.....	2
HT-XXX	Health and Fitness Practicum.....	2

Selectives

1-4 additional credits of selectives from program plan sheet supplied by adviser.

Health and Fitness Education

Department of Physical Education and Athletics

24 credits are required.

Required Courses

BIO-132	Human Biology or	
BIO-234	Physiology and Anatomy	4
HLTH-360	Personal Health and Wellness	3
HLTH-375	Methods in Health Education.....	2
HLTH-376	Organization and Administration of Health Education.....	3
HLTH-485	Student Teaching in Health Education.....	2

Selectives

10 additional credits of selectives from program plan sheet supplied by adviser. A teaching major with professional education courses is required for teacher certification.

History

Department of Social Sciences

22 credits

Required Courses

HIST-120	Early United States History	3
HIST-121	Modern United States History	3
HIST-140	Western Civilization	3
HIST-141	Western Civilization	3

Selectives

Additional departmental offerings to complete 22 credits will be selected.

History Teaching

Department of Social Sciences

24 credits are required.

Required Courses

EDUC-305	Secondary Student Teaching	2
HIST-120	Early United States History	3
HIST-121	Modern United States History	3
HIST-140	Western Civilization	3
HIST-141	Western Civilization	3
HIST-460	History Methods	2

Selectives

Choose two of the following courses:

HIST-322	African-American History	3
HIST-360	Asian History	3
HIST-380	Latin American History	3

Additional departmental offerings to complete 24 credits will be selected.

Human Development and Family Studies

Department of Human Development and Family Studies

22 credits are required.

Required Courses

HDFS-115	Individual and Family Relations	3
HDFS-255	Lifespan Human Development	3
HDFS-215	Dynamics of the Family	3

Additional departmental offerings to complete 22 credits will be selected.

Human Resource Management

Department of Psychology

20-24 credits are required.

A. Core courses (9 credits)

PSYC-382	Human Resource Management	3
PSYC-485	Recruitment and Selection of Human Resources	3
PSYC-403	Management of Employee Reward Systems (Compensation)	3

Take one course from each of the following areas:

B. Diversity (2-3 credits)

PSYC-340	Psychology of Individual and Group Difference	3
INMGT-415	Women and Minorities in Management	2
PSYC-372	Psychology of Sex and Gender	3
REHAB-462	Disability Management	3
SOC-275	Sociology of Gender Roles	3
SOC-375	Sociology of Minority Groups	3

C. Teamwork (2-3 credits)

INMGT-430	Employee Involvement: Work Teams	2
PSYC-270	Social Cognition and Behavior	3
PSYC-370	Interpersonal Effectiveness	3
PSYC-379	Public Relations	2
PSYC-455	Myers-Briggs Type Indicator	3

D. Organization Training and Development (3 credits)

TRHRD-360	Training Systems in Business and Industry	3
INMGT-325	Quality Management	3
RC-381	Occupational Safety/Loss Control	2-3

E. Leadership (3 credits)

INMGT-400	Organizational Leadership	3
PSYC-381	Industrial Psychology	3

F. Experiential (2 credits, with approval)

PSYC-X98	Psychology Field Experience	2
XXX-X49	Cooperative Education Experience	1-8

Information and Communication Technologies

Department of Apparel and Communication Technologies

24 credits are required

Required Courses

TCS-103	Communication and Information Technologies	3
TCS-131	Network Operating Systems Fundamentals	3
GCM-141	Graphic Communications	3
MEDIA-204	Exploring Photography	3
TCS-305	Office Automation Technology	3

Selectives

Select 9 credits from the list supplied by the adviser.

Journalism

Department of English and Philosophy

22 credits are required.

Required Courses

MEDIA-304	Elementary Photography	2-3
GCM-141	Graphic Communications and Electronic Publishing	3
ENGL-207	Writing for the Media	3
ENGL-210	Journalism Practicum	1
ENGL-325	Copy Editing and Preparation	2

Writing Selectives

Select 3 to 10 credits from the following:

ENGL-320	Business Writing	3
ENGL-245	Creative Writing	3
ENGL-246	Informational Writing	3
ENGL-247	Critical Writing	3
ENGL-415	Technical Writing	3

Technical Specialty Selectives

Select up to 7 credits from the following:

Projects Emphasis:

ENGL-210	Journalism Practicum	1
ENGL-437	Technical Writing Practicum	1-3

Public Relations Emphasis:

BUMKG-370	Principles of Advertising	3
PSYC-379	Public Relations	2

Media Emphasis:

ENGL-318	Mass Communication: Effects of Technology on Society	3
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Production Emphasis:

GCM-345	Publications Production	3
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Lodging Management

Hospitality and Tourism Department

23 credits are required.

Required Courses

BUACT-206	Introduction to Financial Accounting	3
BULGL-318	Business Law	3
HT-133	Front Office Management	3
HT-130	Housekeeping Procedures	2
HT-200	Hospitality Organization Management	3
HT-251	Hospitality Marketing	3
HT-361	Hospitality Accounting	3
HT-430	Lodging Administration	3

Materials

Chemistry Department

22-27 credits are required.

Required Courses

MFGE-333	Polymer Processes	3
MFGE-343	Casting, Ceramics and Powder Metal Processes.....	3
CHEM-201	Organic Chemistry I.....	4
CHEM-301	Physical Chemistry Lecture	3
CHEM-303	Physical Chemistry Laboratory.....	1
CHEM-341	Chemistry of Materials	4

Selectives

Select one course with approval of minor adviser.

CHEM-440	Advanced Materials Laboratory.....	1-3
XXX-X99	Independent Study in Materials.....	1-3

Select one option with approval of minor adviser.

Option 1

CHEM-470	Chemistry of Materials II	3
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Option 2

PHYS-331	Statics.....	3
PHYS-333	Dynamics.....	3

Option 3

MFGE-293	Engineering Mechanics	3
MFGE-294	Mechanics of Materials.....	3

As background for the materials minor, it is recommended that either CHEM-135 College Chemistry I, or CHEM-125 Chemistry for the Health Sciences be selected as a natural science general education course.

Mathematics

Department of Mathematics, Statistics and Computer Sciences

Teaching Certification

27 credits are required.

Twenty-two credits must be in the discipline and two credits in a teaching practicum.

Choose one option:

Option 1:

STAT-330	Probability and Statistics for Engineering and the Sciences	3
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Option 2:

STAT-331	Probability and Mathematical Statistics I	3
STAT-332	Probability and Mathematical Statistics II	3

Required Courses

MATH-153	Calculus I or	
MATH-156	Calculus and Analytic Geometry I	4-5
MATH-154	Calculus II or	
MATH-157	Calculus and Analytic Geometry II	4-5
MATH-158	Calculus III	3
MATH-262	Modern Geometry	3
MATH-275	Linear Algebra.....	3
MATH-370	Modern Algebra I.....	3
EDUC-304	Secondary Curriculum Methods and Assessment	2
EDUC-305	Secondary Student Teaching	2

Selectives

Additional courses to complete 27 credits will be selected with advisement.

Non-teaching Minor

22 credits required.

Required Courses

Select one option:

Option 1:

MATH-153	Calculus I	4
MATH-154	Calculus II	4

Option 2:

MATH-156	Calculus and Analytic Geometry I	5
MATH-157	Calculus and Analytic Geometry II	5

Selectives:

Student may select up to 6 credits from Group I:

CS-141	Computer Programming – BASIC.....	2
CS-144	Computer Science I.....	3
CS-145	Computer Science II.....	3
STAT-320	Statistical Methods.....	3

The course STAT-320 may not be included if either STAT-331 or STAT-332 is selected from Group II.

Students must select 9-14 credits from Group II:

STAT-330	Probability and Statistics for Engineering and the Sciences or	
STAT-331	Probability and Mathematical Statistics I.....	3
STAT-332	Probability and Mathematical Statistics II.....	3
MSCS-280	Graph Theory With Applications in Computer Science	3
MSCS-446	Numerical Analysis I.....	3
MSCS-447	Numerical Analysis II.....	3
MATH-158	Calculus III	3
MATH-250	Differential Equations/Linear Algebra or	
MATH-255	Differential Equations.....	3
MATH-262	Modern Geometry.....	3
MATH-275	Linear Algebra.....	3
MATH-370	Modern Algebra I	3
MATH-371	Modern Algebra II	3
MATH-450	Real Analysis I.....	3
MATH-451	Real Analysis II	3
MATH-460	Complex Variables With Applications.....	3

Note: Both the teaching and non-teaching minors require a grade point of 2.0 or better in all courses applied to the minor.

Mechanical and Electrical Construction

Construction Department

22 credits are required.

Required Courses

AEC-438	Contract Requirements and Specifications	3
AEC-452	Environmental Systems - HVAC	3
AEC-453	Environmental Systems - Plumbing and Electrical	3
RC-388	Construction Safety	2
AEC-4XX	Advanced Mechanical Systems for Building Construction	3
AEC-4XX	Advanced Electrical Systems for Building Construction	3
AEC-4XX	Mechanical and Electrical Construction Management	3
AEC-499	Cooperative Educational Experience	2

Military Leadership

Department of Military Science

21 credits are required

Military Science emphasis area (select 6 credits)

MSL-101	Foundations of Officership.....	1
MSL-102	Basic Leadership.....	1
MSL-201	Individual Leadership Studies.....	2
MSL-202	Leadership and Teamwork.....	2
MSL-301	Adaptive Team Leadership.....	3
MSL-302	Leadership Under Fire.....	3

History emphasis area (select 6 credits, 3 credits must be 300-level or higher)

HIST-120	Early United States History.....	3
HIST-121	Modern United States History.....	3
HIST-210	Modern World.....	3
HIST-320	History of World War II.....	3
HIST-350	History of the Viet Nam War.....	3
HIST-380	Latin American History.....	3

Human Society emphasis area (select 6-8 credits)

ANTH-220	Cultural Anthropology.....	3
FREN-201	Intermediate French I.....	4
PHIL-235	General Ethics.....	3
POLS-210	American Government.....	3
POLS-260	Problems of U.S. Foreign Policy.....	3
POLS-270	Introduction to Comparative Government.....	3
POLS-340	International Relations.....	3
PSYC-110	General Psychology.....	3
PSYC-120	Psychology of Adjustment.....	3
SOC-110	Introductory Sociology.....	3
SOC-225	Social Problems.....	3
SPAN-201	Intermediate Spanish I.....	4

Leadership and Management emphasis area (select 3 credits)

BUMGT-304	Principles of Management.....	3
BUMKG-438	Principles of Logistics.....	3
COUN-405	Introduction to Basic Counseling Skills.....	3
INMGT-400	Organizational Leadership.....	3
LOG-250	Critical Thinking.....	3
LOG-301	Introduction to Logical Thinking.....	3
PSYC-382	Human Resource Management.....	3

Philosophy

Department of English and Philosophy

15 credits are required.

Required courses

PHIL-235	General Ethics.....	3
LOG-301	Introduction to Logical Thinking or	
LOG-250	Critical Thinking.....	3

Select 9 credits from the following:

PHIL-201	Introduction to Philosophy.....	3
PHIL-205	Philosophy of Religion.....	3
PHIL-215	Eastern Philosophy.....	3
PHIL-220	Multicultural Philosophy.....	3
PHIL-225	Belief, Knowledge, and Truth.....	3

Note: At least six credits in the minor must be taken at UW-Stout. A minimum grade of C is required for each course in the minor with an overall grade point average of 2.67.

Physics

Department of Physics

22 credits are required.

Required Courses

Select one group from the following:

Group I:

PHYS-241	College Physics I.....	5
PHYS-242	College Physics II.....	5

Group II:

PHYS-281	University Physics I.....	5
PHYS-282	University Physics II.....	5
PHYS-329	Atomic and Nuclear Physics.....	3

Selectives

At least 9 credits from departmental offerings at the 300-level or higher must be included in the minor program.

Project Management

Department of Operations and Management

18-20 credits are required (depending on major)

Required Courses

AEC-438	Contract Requirements and Specifications or	
BULGL-318	Business Law I.....	3
AEC-470	Construction Estimating II or	
BUACT-206	Introduction to Financial Accounting.....	3
INMGT-325	Quality Management.....	3
INMGT-365	Project Management or	
AEC-471	Project Scheduling.....	3
INMGT-400	Organizational Leadership or	
INMGT-430	Employee Involvement: Work Teams.....	2-3
SPCOM-210	Interpersonal Speech Communication or	
SPCOM-308	Speech Skills for Business and Industry.....	2
INMGT-475	Advanced Project Management.....	3

Property Management

Department of Hospitality and Tourism

21-24 credits are required.

Required Courses

INMGT-450	Maintenance Management.....	2
BUACT-206	Introduction to Financial Accounting.....	3
BULGL-365	Principles of Real Estate.....	2
PM-370	Principles of Property Management.....	3
PM-470	Seminar in Property Management.....	2
PM-449	Co-op Education Experience.....	1-3
BULGL-318	Business Law I or	
HT-460	Hospitality Law and Liability.....	3

Real Estate Tracks (choose one)

Track 1: Real Estate Operations

PM-371	Commercial/Residential Property Development and Management.....	3
HT-330	Resort Operations and Management.....	3

Track 2: Resort Operations

HT-374	Principles of Time Share Administration.....	3
HT-374	Time Share Management.....	3

Track 3: Individual Program Design

Any 300- or 400-level course from AEC, BULGL, INMGT, HT or PM approved by the Minor adviser.

Psychology

Department of Psychology

18 credits are required.

Required Courses

PSYC-110	General Psychology.....	3
PSYC-190	Psychological Research Methods	4
PSYC-251	Child Psychology or	
PSYC-352	Adolescent Psychology.....	3
PSYC-460	Personality and Mental Health or	
PSYC-361	Abnormal Psychology or	
PSYC-473	Psychology of Stress.....	2-3

Selectives

Select 5-6 or more credits from any of the courses above not already taken or from the list supplied by the department.

Quality Engineering

Operations and Management Department

24 credits are required

Required courses:

INMGT-325	Quality Management	3
INMGT-422	Quality Engineering	3
INMGT-410	Six Sigma	3
INMGT-425	Planned Experimentation	3
INMGT-440	Lean Enterprise	3
INMGT-465	Reliability Engineering	3

Selectives

Select 6 additional credits from the list supplied by the department.

Quality Management

Operations and Management Department

21 credits are required.

Required Courses

INMGT-320	Quality Assurance	3
INMGT-325	Quality Management	3
INMGT-410	Quality Six Sigma Quality Improvement Methods.....	3
INMGT-420	Quality Practicum	3
INMGT-440	Lean Enterprise	3

Selectives

Select 6 additional credits from the list supplied by the department.

Retailing

Department of Business

21 credits are required.

Required Courses

BURTL-112	Trend Forecasting.....	3
BURTL-227	Basic Merchandising	3
BURTL-229	Visual Merchandising or	
BURTL-327	Store Management	3
BURTL-329	Fashion Promotions	3
BURTL-425	Current Retail Strategies.....	2
BURTL-430	Merchandise Planning and Control	4

Selectives

3-6 additional retail course credits approved by the department.

Sociology

Department of Social Sciences

21 credits are required.

Required Courses

ANTH-220	Cultural Anthropology	3
SOC-110	Introductory Sociology.....	3
SOCWK-205	Introduction to Social Work.....	3

Selectives

Additional courses to complete 21 credits will be selected from the program plan sheet provided by the department.

Note: A minimum grade of C- is required for each course in the minor with an overall grade point average of 2.5 in required courses. The three required courses and at least two selective courses must be completed at UW-Stout to fulfill the residency requirement.

Spanish

Department of Speech Communication,

Foreign Language, Theatre and Music

24 credits are required.

Required Courses

SPAN-121	Practical Spanish I and	
SPAN-122	Practical Spanish II	4
	or	
SPAN-103	Elementary Spanish I.....	4
SPAN-104	Elementary Spanish II.....	4
SPAN-201	Intermediate Spanish I	4
SPAN-202	Intermediate Spanish II	4
SPAN-227	Conversation and Composition.....	2
SPAN-229	Hispanic Literature in America	2

4-6 additional Spanish course credits approved by the Spanish adviser. Students are also required to demonstrate their proficiency in spoken Spanish by taking an outside examination as recommended by the Spanish faculty.

Speech Communication

Department of Speech Communication,

Foreign Language, Theatre and Music

17 credits are required.

Required Courses

SPCOM-100	Fundamentals of Speech	2
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Selectives

Select 15 credits from the list supplied by the department and approved by the Speech Minor adviser to best fulfill your individual, career and academic needs.

Supply Chain Management

Operations and Management Department

22 credits required

Required courses:

INMGT-305	Production and Inventory Control.....	3
INMGT-405	Production and Inventory Control Practicum	2
INMGT-320	Quality Tools.....	3
BUMKG-337	Purchasing and Supply Chain Management	3
INMGT-325	Quality Management	3
BUMKG-438	Principles of Logistics.....	3

Selectives

Select at least 5 credits from the list of courses supplied by the department.

Sustainable Design and Development

Department of Engineering and Technology

23 credits are required

Required Courses

AEC-191	The Built Environment or	
DES-150	Introduction to Sustainable Design or	
MFGE-106	Impacts of Engineering Design or	
PKG-100	Packaging and Society	2
CHEM-125	Principles of Chemistry for Health Sciences or	
CHEM-135	College Chemistry I	5
BIO-111	Science, Society and the Environment.....	4
SUST-425	Sustainable Design and Development Capstone	3

Environmental Science Elective: select one of the following:

BIO-350	Ecology or	
CHEM-353	Environmental Chemistry.....	3

Design and Development Elective: select one of the following:

SUST-315	Sustainable Engineering or	
DES-350	Sustainable Design Studio or	
DES-431	System, Environment and Context	3

Select one of the following:

BUACT-410	Manufacturing Cost Analysis	3
BUMKG-438	Principles of Logistics.....	3
BUMKG-337	Purchasing and Supply Chain Management	3
CHEM-452	Environmental Regulations Management	3
ECON-350	Environmental and Natural Resources Economics	3
ECON-480	International Economics	3
SUST-3XX	Renewable Energies and Resources	3
POLS-250	Politics of Technology	3
PSYC-281	Environmental Psychology	3
POLS-315	Public Policy Awareness	3
SOC-300	Sociology of Technology	3

Technical Writing

Department of English and Philosophy

15 credits are required.

Required Courses

ENGL-225	Copy Editing and Preparation	2
ENGL-415	Technical Writing	3
ENGL-437	Technical Writing Practicum	1-3

Select 6-9 credits in consultation with the adviser.

Tourism

Department of Hospitality and Tourism

24 credits are required.

Required Courses

HT-140	Introduction to Tourism	2
HT-340	Development of Tourism Attractions	3
HT-240	Tourism Goods and Services.....	3
HT-440	Sociocultural Systems of Tourism.....	3
HT-341	Geography of Tourism.....	3
HT-360	Hospitality and the Handicapped Traveler	1

Select 4 credits from the following:

FREN-101	Elementary French I.....	4
FREN-102	Elementary French II.....	4
SPAN-103	Elementary Spanish I.....	4
SPAN-104	Elementary Spanish II.....	4

A comparable number of credits in a well-known language used in travel and trade may be substituted.

Selectives

Five credits required.

Traffic Safety Education

Risk Control Center

22 credits are required.

Required Courses

RC-271	Safety Principles and Practices or	
RC-381	Principles of Occupational Safety/Loss Control	3
RC-371	Alcohol, Drugs and Accident Prevention	3
RC-372	Behavioral Approach to Accident Prevention.....	3
RC-374	Driver Education Laboratory Methods and Techniques	3
RC-375	Driver and Traffic Safety.....	3

Select 7 credits from the following:

MEDIA-360	Introduction to Media in Education and Training.....	2
TECED-260	Curriculum Methods and Assessment for Technology Education	3
TECED-460	Advanced Curriculum Methods and Assessment for Technology Education	3
FCSE-201	Presentation Strategies for Family and Consumer Sciences	2
FCSE-301	Family and Consumer Sciences Education Curriculum	3
SCOUN-301	Introduction to Guidance	2
EDUC-303	Educational Psychology.....	3
HLTH-340	ARC Standard First Aid and Personal Safety	2
SPCOM-236	Listening.....	2

Women and Gender Studies

Academic and Student Affairs

21 credits are required.

Required Courses

WGS-210	Introduction to Women and Gender Studies	3
CSTEM-125	Gender and Science, Technology, Engineering and Mathematics	3
INMGST-415	Inclusivity in Leadership or	
INMGST-416	People Process Culture	3

Selectives (12 credits)

Choose 6 credits or more credits from Level A. Remaining credits may be chosen from either Level A or Level B.

Level A

ARTH-332	Gender and Art	3
HDFS-257	Lifespan Sexuality	3
HDFS-320	Divorced, Single Parent, and Remarried Family	2
HDFS-350	Women's Relationships in Later Life	3
HDFS-352	Sexual Minority Individuals and Families.....	2
HDFS-360	Work and Family Issues.....	2
HDFS-456	Abuse and the Family	3
HIST-321	U.S. Women's History	3
HIST 311	Women and War: A Global Perspective in the Modern Era	3
LIT-272	Women Writers	3
LIT 303	Coming of Age in Literature and Film	3
PSYC-372	Psychology of Sex and Gender.....	3
PSYC-374	Psychology of Women	2
PSYC-375	The Psychology of Marriage and the Family	2
SOC-275	Sociology of Gender Roles	3
WS-310	Women's Studies Practicum.....	1-3
WS-311	Topics in Women's Studies	1-3

Level B

APRL-211	History of Fashion – 19th Century to Present	3
BIO-130	Human Sexual Biology.....	3
BURTL-319	Int'l Economic Trends in Textiles and Clothing	3
BURTL-417	Social/Psychological Aspects of Clothing	3
EDUC-336	Multiculturalism: Issues and Perspectives	2
HDFS-340	Human Development: Late Adulthood	3
HDFS-341	Family Caregiving to Dependent Elders	1
HDFS-345	Health Care Dilemmas and Decisions for Families	2
HDFS-426	Working with Transnational Families	2
HDFS-440	Child and Family Law	3
HDFS-450	Family Policy.....	3
PHIL-220	Multicultural Philosophy	3
PSYC-370	Interpersonal Effectiveness Training.....	2

Professional Development Certificates

Introduction

UW-Stout offers "professional development certificate" programs in addition to its traditional majors and minors to meet the needs of those who wish to obtain additional knowledge and skills needed for personal growth and professional advancement.

While not a substitute for a degree or diploma, the certificate is an alternative credential for individuals seeking to obtain new knowledge and skills or to update their knowledge and skills in a specific area.

Typically, a certificate is earned by completing a set of limited, well defined learning outcomes focused on new or emerging processes or new knowledge and principles applied to practical problems or issues.

These course sets lead to a certificate only. If you're interested in a bachelor's degree, please refer to the degree programs found elsewhere in this bulletin.

Cisco Certified Network Associate Exam Preparation Certificate

The Cisco Certified Network Associate (CCNA) Exam Preparation Certificate prepares students to pass examinations through the use of lecture, online curriculum, and laboratory exercises. In order to earn the certificate, students must pass the following courses and professional exams:

TCS-131	Network operating System Fundamentals	2
TCS-141	Networking Fundamentals I	2
TCS-142	Networking Fundamentals II	2
TCS-143	Networking Fundamentals III	2
TCS-144	Networking Fundamentals IV	2
Exam: Cisco CCNA		

For more information: Steve Schlough, schloughs@uwstout.edu , 715/232-1484

Cisco Certified Design Associate Exam Preparation Certificate

The Cisco Certified Design Associate (CCDA) Exam Preparation Certificate prepares students to pass examinations through the use of lecture, online curriculum, and laboratory exercises. In order to earn the certificate, students must pass the following courses and professional exams:

TCS-131	Network operating System Fundamentals	2
TCS-141	Networking Fundamentals I	2
TCS-142	Networking Fundamentals II	2
TCS-143	Networking Fundamentals III	2
TCS-144	Networking Fundamentals IV	2
Exam: Cisco CCNA		
TCS-382/582	Network System Design	3
Exam: Cisco DCN		

For more information: Steve Schlough, schloughs@uwstout.edu , 715/232-1484

Cisco Certified Network Professional Exam Preparation Certificate

The Cisco Certified Network Professional (CCNP) Exam Preparation Certificate prepares students to pass examinations through the use of lecture, online curriculum, and laboratory exercises. In order to earn the certificate, students must pass the following courses and professional exams:

TCS-441/641	Scalable Internetworks	3
Exam: Cisco Routing		
TCS-442/642	Remote Access Networks	3
Exam: Cisco Remote Access		
TCS-443/643	Multi-Layer Switched Networks	3
Exam: Cisco Switching		
TCS-444/644	Internetwork Troubleshooting	3
Exam: Cisco Support		

For more information: Steve Schlough, schloughs@uwstout.edu , 715/232-1484

Cisco Certified Design Professional Exam Preparation Certificate

The Cisco Certified Design Professional (CCDP) Exam Preparation Certificate prepares students to pass examinations through the use of lecture, online curriculum, and laboratory exercises. In order to earn the certificate, students must pass the following courses and professional exams:

TCS-441/641	Scalable Internetworks	3
Exam: Cisco Routing		
TCS-442/642	Remote Access Networks	3
Exam: Cisco Remote Access		
TCS-443/643	Multi-Layer Switched Networks	3
Exam: Cisco Switching		
TCS-445/645	Internetwork Design	3
Exam: Cisco Design		

For more information: Steve Schlough, schloughs@uwstout.edu , 715/232-1484

Creative Writing

The Creative Writing Certificate provides participants with expertise in areas of effective creative writing to meet a range of written communication and problem solving responsibilities in business, industry, and education. Participants must complete the following courses with a B or better to earn the certificate:

Tier One – Required

ENGL-245	Creative Writing	3
ENGL-XXX	Creative Writing II (<i>under development</i>)	3

Tier Two – Choice of two courses

ENGL-356	Creative Writing Workshop (<i>repeatable</i>):	
	1) Advanced Fiction Writing	
	2) Advance Poetry Writing	
	3) Advanced Creative Nonfiction Writing	6

Tier Three – Choice of one

ENGL-361	Hypertext Writing or	
ENGL-371	Writing for Multimedia	3

Tier Four – Capstone Seminar

ENGL-4XX	The Writer at Work Seminar (<i>under development</i>)	2
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For more information: Brian Fitch, fitchb@uwstout.edu, 715/232-1485

Gaming Management

The professional development certificate in Gaming Management will provide gaming personnel, graduate and undergraduate students, and international audiences with an understanding of the operational and management aspects of casino gaming while addressing the historical, legal, economic, social, psychological, and tourism impacts that gaming entertainment has on communities and societies.

HT-315/515	Gaming Management	3
HT-316/516	Casino Operations Management	3
HT-317/517	Psychosocial Issues in Gaming	3
HT-418/618	Casino Tourism	3

For information: Sharon Giroux, girouxs@uwstout.edu, 715/232-2089

Human Resource Management

The Human Resource Management certificate program provides a broad base of knowledge to professionals seeking to expand their management competencies. The coursework is essential to prepare for the Professional Human Resource (PHR) exam, developed by the Society for Human Resource Management (SHRM) and recognized nationally as a significant credential for professional advancement in human resources. Competencies required by human resources professionals are best defined by content of the SHRM examination, and they are the same competencies covered in the coursework required for the certificate. The certificate in no way implies or guarantees that the student will pass the exam but should be seen as an important professional accomplishment.

The following courses provide the student with knowledge in all of the tested areas:

PSYC-381/581	Industrial Psychology	2
PSYC-382/582	Human Resource Management	3
PSYC-403/603	Management of Employee Reward Systems	3
PSYC-485/685	Recruitment and Selection of human Resources	3
TRHRD-360/560	Training Systems in Business and Industry	3
ECON-421/621	Collective Bargaining and Labor Relations	2
RC-381/581	Occupational Safety/Loss Control	2-3

For more information: Mitchell Sherman, shermanm@uwstout.edu, 715/232-2658

Quality Management

The Quality Management certificate program provides specific and focused content and activities to enable participants to develop competencies and skills commonly required for quality professionals. Completion of the certification program will prepare participants to pursue further credentials in the quality area, including American Society for Quality (ASQ) certification tests. Students earn the certificate by completing the following courses with a B- or better in each course:

INMGT-120	Quality Concepts	3
INMGT-320	Quality Tools	3
INMGT-325	Quality Management	3
INMGT-220	Quality Systems-Service Industries or	
INMGT-420	Quality Assurance Practicum	3-4

For more information: Donna Stewart, stewartd@uwstout.edu, 715/232-1234

Specializations

Introduction

Specializations are programs of study, with carefully constructed learning goals and experiences, and evaluation procedures. While course work may be included in a specialization, students may also work to meet learning goals through internships, working with a mentor, successfully completing a proficiency examination or certification examination, or other non-classroom experiences. Courses may come from several departments and involve faculty from several disciplines.

Courses taken to complete a specialization may also fit elsewhere in a student's program of study.

Students who complete a specialization will have the specialization recorded on their transcript and will receive a certificate of completion.

Color

Color plays a major role in our daily lives, and the color industry holds a significant sector in business. Both national and international companies conduct color research on products such as textiles, paints, cars, and clothes. Color is also a growing area with developers in community and neighborhood design and remains an important component of

marketing and packaging goods and ideas. In fact, major employers in the region hire employees to focus specifically on the color aspect of their industries. The Color specialization provides students with the opportunity to learn about the dynamic and complex field of color from a variety of disciplinary perspectives.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation
1. Understand the science of perception of color.	PHYS-150 The Nature and Application of Light and Color .....2	Exams, papers, projects, reports, grade of C or better.
2. Understand the psychology of color cognition and human perception.	PSYC-432 Perception .....3	Exams, papers, projects, reports, grade of C or better.
3. Understand reproduction of color in print using current technology.	GCM-367 Color Management .....3	Exams, papers, projects, reports, grade of C or better.
4. Understand color theory with applied exercises in a studio environment and to understand how broad-reaching color theories can evolve from diverse efforts to solve specific problems.	ART-XXX Color Studio .....3	Exams, papers, projects, reports, grade of C or better.
	ART-XXX Color Seminar .....4	
5. Understand systematic analysis, quantification, and/or measurement of color.	Choose one "systems" course:	Exams, papers, projects, reports, grade of C or better.
	BURL-212 Trend Tracking and Forecasting .....3	
	CHEM-335 Instrumental Methods of Analysis .....3	
	MFGT-204 Polymer Processes .....3	
	MFGT-251 Polymer and Composite Processes .....3	
6. Understand color in an applied studio environment using varied media.	Choose one "materials" course:	Exams, papers, projects, reports, grade of C or better.
	APRL-140 Textiles .....3	
	APRL-145 Interior Decorating/Design Textiles .....3	
	ART-209 Painting I .....3	
	ART-217 Printmaking I .....3	

Digital Photography

This specialization pulls together several courses into a coherent cluster of learning activities which emphasize the digital aspect of photography to serve both on-campus students and the needs for continuing professional education.

With elimination of wet darkrooms associated with conventional photography, many organizations are bringing photographic services

in-house using electronic systems. Digital photography is marketed as being foolproof, but the task of obtaining, manipulating, and presenting quality images remains daunting. People need to be trained in this new technology as part of their continuing professional education.

The addition of digital photography to your professional preparation can provide an important competitive edge.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation
1.0 Demonstrate understanding and application of the technical aspects of digital image acquisition 1.1 Demonstrate understanding of photographic exposure 1.2 Demonstrate understanding of the principle of reciprocity 1.3 Demonstrate understanding of depth-of-field 1.4 Demonstrate understanding of image resolution 1.5 Demonstrate ability to scan using both flatbed and film scanners 1.6 Demonstrate understanding of file type. 1.7 Demonstrate knowledge of strengths of various films and digital inputs.	MEDIA-204 Exploring Photography.....3 MEDIA 405/605 Advanced Photography .....3 MEDIA 450/650 Digital Photography .....3	Objective and subjective tests, work sample analysis, behavioral observation.
2.0 Demonstrate understanding and application of the technical aspects of digital image manipulation using industry accepted software and procedures. situations 3.1 Demonstrating studio lighting for still-life, portraiture, and the like 3.2 Demonstrate location lighting 3.3 Demonstrate safety precautions when using lighting systems. 3.4 Demonstrate ability to do photography in the non-visible spectrum 3.5 Demonstrate ability to balance mixed light sources.	MEDIA 450/650 Digital Photography.....3 Objective and subjective tests, work sample analysis, behavioral observation. 3 MEDIA 430/630 Digital Audio and Video Production Fundamentals .....3 MEDIA 410/610 Product Photography .....3	3.0 Demonstrate the effective use of photographic lighting for a variety of subjects and Objective and subjective tests, work sample analysis, behavioral observation.
MEDIA 405/605 Advanced Photography 4.0 Describe and evaluate legal issues involving such topics as ownership, copyright, contracts, permission or releases, liability and the like.	MEDIA 450/650 Digital Photography .....3 MEDIA 430/630 Audio/Video Production .....3	Objective and subjective tests, work sample analysis, behavioral observation.
5.0 Develop and maintain a digital image cataloging, storage, and retrieval system.	MEDIA 450/650 Digital Photography .....3 MEDIA 430/630 Digital Audio and Video Production Fundamentals .....3 MEDIA 410/610 Product Photography .....3 MEDIA 405/605 Advanced Photography .....3	Objective and subjective tests, work sample analysis, behavioral observation.
6.0 Prepare digital images for presentation via electronic distribution, print display, electronic pre-press, video and other methods.	MEDIA 450/650 Digital Photography .....3 MEDIA 405/605 Advanced Photography .....3 MEDIA 430/630 Digital Audio and Video Production Fundamentals .....3	Objective and subjective tests, work sample analysis, behavioral observation.
7.0 Develop and maintain a digital image cataloging, storage, and retrieval system.	MEDIA 405/605 Advanced Photography .....3 MEDIA 430/630 Digital Audio and Video Production Fundamentals .....3 MEDIA 410/610 Product Photography .....3	Objective and subjective tests, work sample analysis, behavioral observation.
8.0 Identify markets for photographic images.	MEDIA 430/630 Digital Audio and Video Production Fundamentals .....3 MEDIA 410/610 Product Photography .....3 MEDIA 405/605 Advanced Photography .....3	Objective and subjective tests, work sample analysis, behavioral observation.
9.0 Write specifications and identify sources for electronic imaging systems.	MEDIA 430/630 Digital Audio and Video Production Fundamentals .....3 MEDIA 410/610 Product Photography .....3 MEDIA 405/605 Advanced Photography .....3	Objective and subjective tests, work sample analysis, behavioral observation.

Gerontology Certification

The populations of the United States and the world are growing older, precipitating important changes in health and social policies. At present, one in eight Americans are 65 or older. These growing numbers will increase demand for individuals with gerontological skills and knowledge. The Gerontology Certification requires 20 credits, or

equivalent, and includes a required core and practicum through which students study aging as an interactive process of physical, social and psychological forces. Two credits of field experience with aging-related content will be required in the student's own major area of study.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation
The following outcomes will be achieved through required courses:		
1. Identify major biological theories of aging.	BIO-125 Biology of Aging .....3	Exam, papers, reports 2.0 grade point average
2. Identify and describe the biological changes associated with aging.		
3. Recognize normal and pathological changes that occur in organ systems with age.	HDFL-340/540 Human Development: Aging Person.....3 BIO-125 Biology of Aging .....3	Exam, papers, reports 2.0 grade point average
4. Comprehend the social, political and economic aspects of aging.	HDFL-340/540 Human Development: Aging Person.....3	Exam, papers, reports 2.0 grade point average
5. Recognize and discard stereotypes associated with aging.		
6. Work in direct or indirect service to the older population.	Field Experience	Evaluation of field experience
The following outcomes may be achieved through the student's selection of elective courses:		
7. Understand lifespan concept of development and demonstrate an integrated knowledge of the aging individual within the context of family.	HDFL-255 Lifespan Human Development .....3	Exam, papers, reports 2.0 grade point average
8. Understand the reciprocal nature of family caregiving.	HDFL-341/541 Family Caregiving to Dependent Elders .....1	Exam, papers, reports 2.0 grade point average
9. Understand the process of grief for older adults.	HDFL-425/625 Death Education and Counseling in Families.....2	Exam, papers, reports 2.0 grade point average
10. Recognize personal and cultural attitudes toward death.	HDFL-351 Death and the Family.....1	Exam, papers, reports 2.0 grade point average
11. Identify and understand the ethical issues related to health care for the elderly.	HDFL-345/545 Health Care Dilemmas and Decisions for Families.....2	Exam, papers, reports 2.0 grade point average
12. Demonstrate ability to plan and develop nutritious meals and programs for older individuals which take into account physical and financial limitations.	FN-405/605 Nutrition for the Aged .....2	Exam, papers, reports 2.0 grade point average
13. Assist aging individuals, especially those with physical limitations, to find suitable and aesthetically pleasing clothing. Understand the product needs of older consumers and the promotional strategies used to market to this population.	BURL-335/535 Topics: Minorities and Aging Consumers .....2	Exam, papers, reports 2.0 grade point average
14. Understand counseling approaches and techniques for working with aging families in order to construct models for counseling older individuals and their families.	COUN-494/694 Counseling the Older Person.....2-3	Exam, papers, reports 2.0 grade point average
15. Assist older individuals and their families with financial planning.	HT-488 Financial Planning for Retirement.....2	Exam, papers, reports 2.0 grade point average
16. Identify the effects of exercise upon an older individual.	HLTH-365 Physiology of Exercise.....3	Exam, papers, reports 2.0 grade point average
17. Explain the psychological and physiological dimensions and impact of disability from a developmental perspective.	BIO-220 Physiology of Disabilities .....3 REHAB-230 Psychosocial Aspects of Disability .....3 REHAB-682 Sexuality and Disability.....2	Exam, papers, reports 2.0 grade point average
18. Identify needs and difficulties unique to older disabled workers.	REHAB-355/555 Rehabilitation of the Older Disabled Worker.....2	Exam, papers, reports 2.0 grade point average
19. Identify formal support systems available to older persons with special needs or national, state and local needs.	REHAB-458/658 Rehabilitation Support System Networking.....2	Exam, papers, reports 2.0 grade point average
20. Explain various understandings of the meaning of aging as portrayed in literature.	LIT-450 Aging in Literature .....3	Exam, papers, reports 2.0 grade point average
21. Identify architectural barriers confronted by the disabled traveler.	HT-360/560 Hospitality and the Handicapped Traveler .....1	Exam, papers, reports 2.0 grade point average
22. Understand the range of technological options available to assist frail and/or disabled elderly.	REHAB-360/560 Assistive Technology.....2	Exam, papers, reports 2.0 grade point average
23. Identify and describe absorption and metabolism of medications in the elderly.	BIO-358 Introduction to Pharmacology.....2	Exam, papers, reports 2.0 grade point average

Golf Enterprise Management

This specialization will prepare students for careers in the management of golf operations. Students will demonstrate their knowledge and skills through applied activities and assessment of theoretical principles, benefiting from the "hands on, minds on" approach to learning. The specialization will enhance degree programs in General Business Administration; Hotel, Restaurant and Tourism Management; and Service

Management as well as the professional careers of persons seeking employment in the golf industry. This specialization is supported by the golf industry to address the need for employees with knowledge of the industry and the skills required to manage the many aspects of a golf-related business.

Requirements for the Specialization

18-22 credits required.

Intended Outcome	Learning Activity	Evaluation
Students will be able to:		
Required courses: 9-12 credits		
1. Understand major trends in the golf industry, including tourism, consumer interests, course ownership and management, and golf retail business.	GEM-101 Introduction to Golf Enterprise Management .....1 GEM-201 Principles of Golf Enterprise Management.....3	Successful completion of required courses with a grade of “C” or better.
2. Distinguish missions of principal national and international associations in the golf industry.	GEM-101 Introduction to Golf Enterprise Management.....1	
3. Understand golf facility operations from perspectives of resort, private, municipal, and daily fees courses.	GEM-201 Principles of Golf Enterprise Management.....3	
4. Understand basic business principles as applicable to golf enterprise management.	GEM-201 Principles of Golf Enterprise Management.....3	
5. Understand issues and strategies for developing new customers and retention of past customers of golf operations.	GEM-301 Customer Development, Retention and Marketing .....3	
6. Develop basic golf skills.	PE-129 Golf .....1	Successful completion of co-op or internship with a grade of “C” or better. The student will be evaluated by the employer and a faculty mentor. The student will complete a final report that provides a general overview of the golf enterprise venue including its policies and procedures, a description of the job duties performed, the relationship of the courses in the specialization to the experience and a self evaluation of performance in the position.
7. Integrate the knowledge and skills obtained in the courses in the Golf Enterprise Management specialization through a practical experience in the golf industry.	XXX-XXX Co-op or field experience in a golf enterprise venue..... 1-4	
Based upon the selective courses chosen the student will be able to:		
Selective courses: 9-13 credits		
8. Explain the concepts of raising, allocating and controlling capital for business entities; analyze the income tax system and its relevance with business decisions; analyze financial data to make investment decisions.	BUACT-340 Business Finance .....3	Successful completion of selective courses with a grade of “C” or better.
9. Develop a business plan that addresses the strategies required to start a small business including legal and financial aspects.	BUMGT-480 Entrepreneurship: Small Business Planning.....3	
10. Demonstrate an understanding of the retail, wholesale, advertising, channels of distribution from perspectives of manufacturer to customer.	BUMKG- 330 Principles of Marketing .....3	
11. Analyze the retailing process, the environment within which it operates, and the institutions and functions that are performed.	BURTL-127 Basic Merchandising .....3	
12. Integrate the principles of golf resort planning and operation from the aspects of the resort concept, master planning, environmental impact, facility design, maintenance and operational management.	HT-330 Resort Planning and Operation .....3	
13. Evaluate diversified natural and man-made background tourism elements (BTE) and the preservation and incorporation of these concepts for development of tourism destinations.	HT-340 Development of Tourism Attractions .....3	



Intended Outcome	Learning Activity	Evaluation
14. Understand management of golf club operations from perspectives of customer service for membership, personnel, marketing, and financing.	HT-352 Club Management .....3	
15. Evaluate the factors involved in developing and managing a golf property including the feasibility, financing, appraisal, leases, purchase agreements and management contracts.	HT-371 Commercial/Residential Property Development and Management .....3	
16. Develop interpersonal communication attitudes and skills for effective business practices.	PSYC-370 Interpersonal Effectiveness Training .....2	
17. Understand consumer behavior from the perspectives of psychological theories and principles.	PSYC-377 Consumer Psychology .....3	
18. Understand basic public relations strategies for community, employee, customer, and media applications.	PSYC-379 Public Relations .....2	
19. Understand theories and techniques for effective management of personnel.	PSYC-382 Human Resource Management .....3	
20. Examine the environment in which service operations such as golf operate from the perspective of both the customer and operations management.	INMGT-210 Service Operations Management .....3	
21. Analyze the service management strategies used in the golf industry as contrasted with other economic sectors.	SRVM-354 Service Marketing Management .....3	
22. Evaluate how national and cultural constraints and expectations impact planning, execution, and evaluation of service quality in the golf industry.	SRVM-420 International Service Concepts .....3	

Health Science Occupations Education

This specialization is intended for licensed secondary teachers who are teaching or interested in teaching health science occupation (HSO) related coursework. Individual school districts determine the licensure needed by an individual teaching HSO related coursework. Comple-

tion of the specialization does not result in Wisconsin Department of Public Instruction certification. Courses are offered online. The field experience will take place in a health care facility.

Requirements for the Specialization

12 credits required

Intended Outcome	Learning Activity	Evaluation
Demonstrate knowledge, understanding, and competence in the following:		
1. The demands and responsibilities of working in a health care facility	CTE-398/598 Field Experience .....1-2 CTE-310/510 Foundations of Health Science Occupations Education .....3	Successful completion of courses is required. Artifacts for the professional portfolio are identified on course outlines.
2. National Health Care Skill Standards	CTE-310/510 Foundations of Health Science Occupations Education .....3 CTE-320/520 Careers in Health Care.....3	Successful completion of courses is required. Artifacts for the professional portfolio are identified on course outlines.
3. Curriculum planning in health science occupations	CTE-330/530 Curriculum Planning in Health Science Occupations .....3	Successful completion of course is required. Artifacts for the professional portfolio are identified on course outline.
4. Organizational structure and administration of health care and role of health care professionals	CTE-310/510 Foundations of Health Science Occupations Education .....3	Successful completion of course is required. Artifacts for the professional portfolio are identified on course outline.
5. Student career development	CTE-320/520 Careers in Health Care.....3	Successful completion of course is required. Artifacts for the professional portfolio are identified on course outline.
6. Organization and supervision of work-based learning	CTE-360/560 Cooperative Occupational Education Programs .....2	Successful completion of course is required. Artifacts for the professional portfolio are identified on course outline.

International Studies

As the world moves toward the 21st century, people in all countries and cultures are increasingly interacting with each other. Many UW-Stout graduates find work in multinational businesses and international tourism. Others go into the Peace Corps or other types of international volunteer work. Many more use their leisure time for travel or study abroad. Even those who never venture abroad find their professional, civic and personal lives impacted by the expansion of international relationships.

The International Studies specialization at UW-Stout is flexibly designed to offer students an opportunity to better understand other cultures and international relationships, and to compete more successfully in the workplace. The specialization requires all students to complete six core courses or their equivalents, then select an option that best meets their interests and needs.

All students in the specialization are strongly encouraged to plan work or study experience abroad.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation
1.0 Demonstrate an understanding of international relations. 1.1 Show an understanding of concepts used to analyze international relations. 1.2 Identify participants and patterns of international relationships. 1.3 Identify and analyze global problems arising from international relations.	POLS-340 International Relations .....3	Exams, papers and reports – 2.0 grade point average.
2.0 Demonstrate an understanding of cultural variation and analysis, or demonstrate an understanding of the modern world within its historical context. 2.1 Show an understanding of concepts used to analyze cultural variation or develop an introductory knowledge of the modern world based on its historical antecedents. 2.2 Identify and begin to understand the complexity of cultural and political variations that exist in the world. 2.3 Demonstrate a cross-cultural approach to analyzing international problems.	ANTH-220 Introduction to Cultural Anthropology or HIST-210 Modern World.....3	Exams, papers and reports – 2.0 grade point average.
3.0 Demonstrate an understanding of the geography and peoples of the world. 3.1 Illustrate an understanding of geographical concepts. 3.2 Identify the major components of the physical setting in which cultures exist and international relations occur. 3.3 Identify and analyze the relationships between the physical world, on the one hand, and cultural variation and international relations on the other.	GEOG-104 World Geography .....3	Exams, papers and reports – 2.0 grade point average.
4.0 Demonstrate an introductory knowledge of a second language.	XXX-XXX Language Studies .....8 Equivalent of 8 credits of college-level study of one foreign language. High school language study may count towards this requirement. (International students consult with specialization adviser.)	For Language Studies, certification of proficiencies may be obtained from the language faculty.
5.0 Demonstrate an introductory knowledge of the history, culture and/or social institutions of a country or region other than one's own.	XXX-XXX Area Studies 2-3 (See specialization advisor for a list of acceptable courses focusing on one country or cultural region of the world.)	Exams, papers and reports – 2.0 grade point average.
6.0 Demonstrate an introductory knowledge of intercultural communications.	SPCOM-312 Intercultural Communication or BUINB-346 Intercultural Business Interactions 2-3	Exams, papers and reports – 2.0 grade point average.
7.0 Demonstrate the integration of knowledge with experience in another country or culture. 7.1 Study or work in another culture. 7.2 Show an appreciation of the diversity in cultural values from culture to culture. 7.3 Demonstrate an integration of intercultural experiences with other knowledge about international relations.	XXX-XXX Study Abroad/International Field Experience or Co-op or Internship .....1-2 (Approved Independent Study/Practical International Experience.)	Exams, papers and reports – 2.0 grade point average.



Specialized Learning Objectives	Learning Activity	Evaluation
Option 1: International Business		
1.1.0 Demonstrate an understanding of international business practices.	Select 9 credits from the following:	Exams, papers and reports – 2.0 grade point average.
1.1.1 Demonstrate an understanding of international trade, development, marketing, finance business law, management and/or transportation.	BUINB-260 Introduction to International Business (required) .....3 ECON-480 International Economics .....3 BUINB-338 International Logistics .....3 BUINB-485 International Marketing.....3 BUINB-489 International Business Policies.....3 BUINB-488 International Business Practicum .....3 BUINB-367 International Management.....3	
Option 2: International Tourism		
2.1.0 Demonstrate a knowledge of the international components of the tourism industry.	Select 7-9 credits from the following:	Exams, papers and reports – 2.0 grade point average.
2.1.1 Identify the economic role of tourism in a global economy.	HT-140 Introduction to Tourism .....2	
2.1.2 Identify the role of government in planning/development of tourism.	HT-341 Geography of Tourism.....3	
2.1.3 Analyze current issues related to international tourism.	HT-440 Sociocultural System of Tourism.....3	
2.1.4 Analyze/become familiar with hospitality and tourism publications.	HT-481 Special Problems in Hospitality and Tourism..... 1-3	
2.2.0 Assess quality and quantity of selected tourism resources throughout the world.		
2.2.1 Analyze spatial patterns of connection, circulation, interaction, transportation and communication associated with the geography of tourism.		
2.2.2 Analyze international tourism's locational trends.		
2.2.3 Illustrate world map reading skills related in tourism		
2.3.0 Analyze current tourism topics.		
Option 3: Language Studies		
3.1.0 Demonstrate the ability to communicate in a second language.	Select 16 credits from the following: (8 additional credits in the same language as the core requirement.) Equivalent of two years of college-level study in the same foreign language.	Exams, papers and reports – 2.0 grade point average.
Option 4: Area Studies		
4.1.0 Demonstrate an understanding of the history, cultural background and social institutions of a culture, country or region other than one's own.	Select 8-9 credits in addition to the core area studies requirement: Specialization adviser-approved courses focusing on one country, one ethnic/cultural group or cultural region of the world. (For example, the following courses could serve as an "area studies" grouping: HMON-121 and -122 Practical Hmong I and II; SOC-350 Sociology of the Hmong; and ANTH-240 Hmong Studies and Contemporary Life. These courses would total 8 credits.)	Exams, papers and reports – 2.0 grade point average.
Option 5: International Education		
5.1.0 Illustrate an understanding of the sociopolitical elements of education in a global context.	Select 8-9 credits from the following:	Exams, papers and reports – 2.0 grade point average.
5.2.0 Demonstrate an understanding of the role of education in building a community of learners for a shared global future.	EDUC-336 Multiculturalism: Issues and Perspectives .....2 EDUC-376 Field Experience: Cross-Cultural Experience.....1 EDUC-302 Global Perspectives for Educators .....3 EDUC-400 ESL for Regular Classroom Educators .....2	
5.3.0 Show a receptivity to multicultural perspectives.	REHAB-305 Sign Language I .....3 REHAB-306 Sign Language II .....3	
5.4.0 Demonstrate an awareness and understanding of the global condition and of global developments and trends.	XXX-XXX Foreign language taken at Stout (FREN, GER, HMON, SPAN) or other foreign languages transferred in.....2-4 LIT-273 American Multicultural Literature.....3 PHIL-220 Multicultural Philosophy.....3 BUINB-260 Introduction to International Business .....3 SOC-375 Sociology of Minority Groups.....3 XXX-XXX Student teaching, co-op, field experience or independent study..... 3-4	
Option 6: Apparel Design and Development; Retailing		
6.1.0 Demonstrate an understanding of international economic trends influencing textiles and apparel-related areas.	Select 9-12 credits from the following:	Exams, papers and reports – 2.0 grade point average.
6.2.0 Illustrate an understanding of international historical influences on present day fashion	BURL-319 International Economic Trends in Textiles and Clothing .....3 APRL-410 History of Costume-Ancient to European .....3 APRL-211 History of Fashion_19th Century to Present .....3 BURL-417 Social/Psychological Aspects of Clothing .....3	
6.3.0 Analyze international sourcing and marketing strategies for apparel products and manufacturing.	APRL-405 International Study Tour of the Fashion Industry 1-6 BUINB-260 Introduction to International Business .....3 BUINB-367 International Management.....3 BUINB-485 International Marketing.....3	
6.4.0 Demonstrate an understanding of international business practices through formal course work.		

Professional Writing

The Professional Writing specialization addresses an area of critical importance in business and industry: communicating information clearly and precisely. The specialization is intended for those who wish to gain professional writing skills to help them find employment and those who wish to improve their writing skills to gain promotions or

explore new career directions. Graduates of the Professional Writing specialization will be able to clarify technical concepts for a wide range of audiences, especially non-technical ones. This specialization can be completed entirely online.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation
1. Understand and implement basic professional writing concepts and strategies.	<i>ENGL-415 is a required course for the Professional Writing specialization and is a prerequisite for many upper level courses. Students must take this course during their first semester of work in the Professional Writing specialization.</i> ENGL-415/615 Technical Writing .....3	Demonstrated successful course completion.
2. Interact with clients to produce their documents. Follow a sequence of activities, under supervision, to produce a document, starting with an initial interview and progressing to a final document.	<i>Take three credits from the following:</i> ENGL-121 Introduction to Technical Communication .....3 ENGL-210 Journalism Practicum (not offered online) .....1 ENGL-349 Cooperative Education in Liberal Studies .....1-8 ENGL-437/637 Technical Writing Practicum .....1-3 ENGL-471 Technical Communication and Consulting .....3	Demonstrated successful course completion.
3. Design documents according to client specifications. Learn basic principles of document design. Determine client's design needs. Produce document.	<i>Take three credits from the following:</i> ENGL-361 Hypertext Writing .....3 ENGL-385 Document Design .....3 ENGL-435/635 Writing Technical Manuals .....3	Demonstrated successful course completion.
4. Adapt, direct, and produce information for a particular audience with particular technologies. Structured sequence of activities that train students in concepts of audience adaptation and develop flexibility in adapting to audience. <i>Take three credits from the following:</i>	ENGL-388 Writing Multimedia .....3 ENGL-361 Hypertext Writing .....3 ENGL-425 Usability Design and Testing .....3 ENGL-430 Writing for Content Management .....3 ENGL-435/635 Writing Technical Manuals .....3	Demonstrated successful course completion.
5. Organize and present written material in a clear, concise manner with an emphasis on rhetorical context and strategy. Structured sequence of activities that train students in organizing for a particular audience situation.	<i>Take three credits from the following:</i> ENGL-247 Critical Writing .....3 ENGL-343 Rhetoric of Technology .....3 ENGL-371 Advanced Rhetoric	Demonstrated successful course completion.
6. Produce information according to business and industry standards of style. Structures sequence of activities that train students in style concepts and flexibility.	<i>Take three credits from the following:</i> ENGL-125 Professional Writing Elements of Style .....3 ENGL-207 Writing for the Media .....3 ENGL-225 Editing Processes and Practices .....3 <i>(Prerequisite for ENGL-225: Test out or take ENGL-125)</i>	Demonstrated successful course completion.

Public Relations/Public Information

This specialization is a suitable support program for undergraduate students enrolled in any program the university offers. Virtually every area of professional preparation can benefit from the study of public relations/public information. Institutions and organizations are increasingly aware of the need for sound management practices when dealing with publics and the value of those practices to society.

If UW-Stout students are to achieve their professional goals, they must be competent in developing relationships with many different organizations and understanding the attitudes and values represented by those organizations. Students completing this specialization would be better able to utilize professional communication skills, play an

integrative role in organizational management, assist in the definition and implementation of policy, and represent the organization's rights and responsibilities to the various publics.

Students should apply for the specialization one year before completing the requirements for it. To be admitted to the specialization, a student must have completed 12 credits in the behavioral and/or social sciences and six credits in business or business-related course work.

The specialization will be awarded to the student once all course work required for it has been completed and a minimum 3.0 grade point average has been earned in those courses.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation
1. Anticipate and identify public opinion.	Complete the following courses: PSYC-377 Consumer Psychology.....3 PSYC-379 Public Relations.....2	Demonstrate recognition and comprehension of public opinion through minimum 2.75 grade point average on course expectation.
2. Interpret and communicate public opinions' effect on the plans and operations of an organization.	Complete the following courses: PSYC-377 Consumer Psychology.....3 PSYC-379 Public Relations.....2	Demonstrate the ability to assess the effect of public opinion on organizations through minimum 2.75 grade point average on course expectation.
3. Recognize socially responsible behavior on the part of organizations.	Complete the following courses: PHIL-275 Personal and Professional Ethics.....3 PSYC-377 Consumer Psychology.....3 PSYC-379 Public Relations.....2	Demonstrate ability to identify organizational behavior that is socially responsible through minimum 2.75 grade point average on course expectation.
4. Anticipate public reaction to organization's policy decisions and courses of action.	Complete the following courses: SPCOM-200 Persuasive Speaking.....2 PSYC-479 Advanced Public Relations.....2	Demonstrate awareness of public reaction to organizational activity through minimum 2.75 grade point average on course expectation.
5. Enhance the organizational image through advice to management.	Complete the following courses: SPCOM-200 Persuasive Speaking.....2 PSYC-479 Advanced Public Relations.....2	Demonstrate talent to provide sound advice regarding organizational image through minimum 2.75 grade point average on course expectation.
6. Design and conduct organizational audits (using approved public relations research techniques).	Work on problem-based projects from the following: PSYC-379 Public Relations.....2 PSYC-479 Advanced Public Relations.....2 PSYC-493 Field Practicum in Public Relations Specialization 1-3	Provide evidence of ability to develop tools for assessment and investigation of external and internal publics.
7. Compile and analyze data.	Work on problem-based projects from the following: PSYC-379 Public Relations.....2 PSYC-479 Advanced Public Relations.....2 PSYC-493 Field Practicum in Public Relations Specialization 1-3	Demonstrate comprehensive analysis through reports and presentations.
8. Set objectives, plan and budget resources for public relations/public information activities.	Complete the following courses: PSYC-479 Advanced Public Relations.....2 PSYC-493 Field Practicum in Public Relations Specialization 1-3	Provide evidence of ability to set program goals and objectives and develop program budget.
9. Develop program strategies.	Complete the following courses: TCS-103 Communication and Information Technology.....3 ENGL-246 Informational Writing.....3 PSYC-479 Advanced Public Relations.....2	Demonstrate ability to select appropriate audience, messages and media to carry out program goals and objectives through reports from field supervisors.
10. Implement campaigns to influence organizational goals.	Complete the following courses: TCS-103 Communication and Information Technology.....3 ENGL-246 Informational Writing.....3 PSYC-479 Advanced Public Relations.....2	Demonstrate ability to accomplish campaigns/programs through reports from field supervisors.
11. Evaluate public relations/public information programs.	Work on problem-based projects from the following: PSYC-379 Public Relations.....2 PSYC-479 Advanced Public Relations.....2 PSYC-XXX Practicum Experience..... 1-3	Provide evidence of campaign/program success or failure through examination and evaluation of actual outcomes.

Spanish

Spanish is a practical skill as well as an academic and aesthetic domain. The Spanish speaking population of the United States needs to be served through communication about practical needs as well as through cultural appreciation.

The Specialization in Spanish consists of the four communication skills basic to learning another language: listening, speaking, reading and writing, as well as experience in and study of cross-cultural issues, appreciation of a variety of fine arts and literary genres, and practical knowledge of the Spanish language applied to work and other life situations.

The program is suitable for non-traditional students because it builds upon knowledge they may have acquired through personal experience or in the classroom. The recommended activities for this specialization include courses which are ideal for "brushing up," and are designed so that material will be varied when students take the courses more than once. The specialization can be completed in one year, not considering the field experience, if the student has sufficient background in Spanish, so it is a good credential to combine with a graduate program or to complement a diploma from another university.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation
1. Use general vocabulary to speak Spanish about topics of common or personal interest.	Complete the following courses: SPAN-103 Elementary Spanish or SPAN-121 and -122 Practical Spanish I and II.....4 SPAN-104 Elementary Spanish II.....4 SPAN-201 Intermediate Spanish I .....4 SPAN-202 Spanish II .....4 SPAN-227 Spanish Conversation and Composition .....2 SPAN-229 Hispanic Literature in America .....2 or other experience	Grade of B or better in a Third Year Spanish Course, or credits for speaking on the Brigham Young exam, ACTFL Intermediate Low rating, or other approved test of spoken Spanish.
2. Understand native speakers talking at average speed.	SPAN-227 Spanish Conversation and Composition, or study abroad	Grade of B or better in Spanish 227, or credits for listening on Brigham Young exam, ACTFL Intermediate Low rating, or other approved test of listening comprehension.
3. Write paragraphs to express a personal point of view.	Complete the following courses: SPAN-103 Elementary Spanish or SPAN-121 and -122 Practical Spanish I and II.....4 SPAN-104 Elementary Spanish II.....4 SPAN-201 Intermediate Spanish I .....4 SPAN-202 Spanish II .....4 SPAN-227 Spanish Conversation and Composition .....2 SPAN-229 Hispanic Literature in America .....2 or other experience	Grade of B, or better in SPAN-227 Spanish Conversation and Composition, or in SPAN-229 Hispanic Literature in America, or credits for writing paragraphs on Brigham Young exam or other approved writing test.
4. Read authentic journalistic prose or other reports, understanding the general meaning, coping well with grammatical nuances and complexities, and inferring meanings, for most unfamiliar words.	SPAN-201 Intermediate Spanish I and SPAN-227 Spanish Conversation and Composition, or extensive and careful reading of magazines and newspapers.	Grade of B or better in Spanish 227, other Third Year course based on journalistic prose, or departmental examination.
5.1 Recognize and interpret cultural differences in written material and conversational situations.	SPAN-229 Hispanic Literature in America or other Spanish literature course and cross-cultural readings recommended by department	Grade of B or better in Spanish 229 or departmental examination based on cross-cultural readings and applied to conversational dialogues and literary passages.
6. Interact with ease in professional, social and tourist situations where Spanish is the language of communication.	A minimum of two weeks living experience among native speakers of Spanish.	Participate in a videotaped conversation or interview, in Spanish, fifteen minutes or more, with the collaboration of a native speaker or other appropriate individual.
7. Appreciate the usefulness of Spanish in real life situations.	Personally use Spanish in practical situations, interview about ten people who use Spanish in travel or social or work situations.	Ten page report, in English or Spanish, on how Spanish may be used in various professional or life situations.
8. Be able to use Spanish. in the context of one's chosen profession.	Locate books and other documents in Spanish related. to one's major or future work situation.	Portfolio report – two hundred vocabulary words of a highly specialized nature, with explanations or illustrations as necessary, to be approved by faculty.
9. Read and write personal correspondence in Spanish.	Formal Spanish courses, writing letters to friends and/or family members.	Completion of SPAN-227 Spanish Conversation and Composition with a grade of B or better, or presentation of portfolio of ten letters which the candidate has written to real, or imaginary persons.



Intended Outcome	Learning Activity	Evaluation
10. Recognize the importance of aesthetic values in Hispanic life.	SPAN-229 Hispanic Literature in America or other Hispanic culture course, or research on ten Hispanic composers, artists, and/or authors, in consultation with the faculty.	Grade of B or better in Spanish 229 or other advanced Hispanic culture course, or write an essay based on the results of research, emphasizing aesthetic values and the importance of art in the community.
11. Be familiar with several aesthetic characteristics used in the music, art and literature of Hispanic cultures.	SPAN-201 Intermediate Spanish I and SPAN-229 Hispanic Literature in America, or, listen to Hispanic music, become familiar with examples of Hispanic art and read Hispanic authors, under consultation with faculty.	Completion, with a grade of B or better, of Spanish 201 and 229, or six credits in other courses based primarily on cultural material or presentation, in English or Spanish, of one example each from art, music, and literature, emphasizing unique Hispanic characteristics.
12. Be familiar with some of the most important current, and historical events and situations in Spanish-speaking countries.	SPAN-201 Intermediate, Spanish I, or research from a collection of current and historical readings provided by faculty.	Grade of B or better in Spanish 201, or departmental exam based on recommended reading material.
13. Develop strategies for maintaining and improving language proficiency outside the academic setting.	Experience at least three media appropriate to language maintenance, such as Spanish-language movies or newspapers, audio review tapes or computer programs.	Write a reaction paper on your experience with three different media sources, in consultation with faculty.

Training and Human Resource Development

Education is not the sole province of schools. Programs of instruction are conducted by many businesses, industries, in the military, and by other groups and organizations. Planning and providing this instruction is the province of professionals usually identified as "trainers." In our technological society, training programs have become increasingly complex and demands on trainers have increased. Greater expertise on their part is required. This all-university specialization addresses

needs for preservice and in-service education for trainers.

This program is intended for students who have expertise in areas such as engineering, technology, education, business, government, military and labor, and who desire to become involved in development and implementation of training programs. Contact the Office of the Dean, College of Technology, Engineering and Management for further information.

Requirements for the Specialization

Note: Courses numbered 700 and greater are open to graduate students only.

Intended Outcome	Learning Activity	Evaluation
1. Introduction to concepts of training and human resource development.	TRHRD-360/560 Training Systems in Business and Industry .....3 Select one of the following: INMG-T-400/600 Organizational Leadership or PSYC-382/582 Human Resource Management .....3	Successful completion of courses at left (6 credits).
2. Design and develop training activities.	MEDIA-360/560 Introduction to Media in Education and Training .....2 Complete a course from the appropriate school in curriculum development or course construction (2-3 credits) such as: EDUC-312/512 Introduction to Curriculum, Methods and Assessment.....2 MEBE-401 Marketing Education Curriculum..... 2-3 VTAE-438/638 Course Construction for Vocational Educators.....2	Successful completion of courses at left (minimum 4 credits).
3. Implement and facilitate training activities.	Select one of the following: EDUC-312/512 Introduction to Curriculum, Methods and Assessment.....2 MEBE-301 Marketing Education Methods 3-4 TRHRD-370/570 Training Methods in Business and Industry .....2 VTAE-405/605 Methods of Teaching Vocational Education.....2	Successful completion of a course at left (minimum 2 credits).
4. Evaluate the effectiveness of training activities.	VTAE-440/640 Instructional Evaluation in Vocational Education .....2	Successful completion of the course at left (2 credits).
5. Apply concepts of training in the professional area.	TRHRD-XXX Co-op/Internship in Training..... 1-8	Successful completion of the contractual agreement of the internship as evaluated by the business, industry, government or military supervisor, and the UW-Stout supervisor. Completion of a field report is required.

Vocational Evaluation/Rehabilitation Technology

The impact of technology has changed assessment and service delivery in the field of rehabilitation. A philosophical shift to a more empowering stance with persons with disabilities has occurred as a result of the evaluation of their skills and abilities and the enhancement of those skills through assistive technology. This specialization educates and

trains vocational rehabilitation professionals and students in skills to meet the needs of people with disabilities, and to provide the services that are being demanded by employers, as well as persons with disabilities for use in the labor market and in accordance with the Americans with Disabilities Act.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation
Development of tool modification and accommodation: demonstrate familiarity with and use of testing accommodations or modifications to facilitate the vocational exploration of persons with disabilities through the modification of tests, work samples, job sites and training materials, as appropriate.	"The Use of Assistive Technology" workshop, resulting in a report detailing the use and modification of testing strategies <i>or</i> REHAB-360/560 Assistive Technology .....2	Faculty review and approval of report on use and modification of evaluation tools <i>or</i> Grade of "C" or better
Communication of rehabilitation plan objectives and recommendations: demonstrate the ability to incorporate the potential of assistive technology to enhance performance potential in the vocational choices of persons with disabilities.	"The Use of Assistive Technology" workshop, resulting in reports that include recommendations for the use of assistive technology <i>or</i> REHAB-360/560 Assistive Technology .....2	Faculty review and approval of report on use and modification of evaluation tools <i>or</i> Grade of "C" or better
Vocational rehabilitation process and philosophy: outline and describe philosophical movements associated with vocational rehabilitation in the United States, describe the role of vocational rehabilitation/assessment in a diverse cultural environment, and describe the need that persons with disabilities have to be a part of society, focusing on strengths and assets that people bring with them to any situation.	Research paper describing process and philosophy <i>or</i> Demonstrated work experience of three or more years and professional development credentials <i>or</i> REHAB-101 Introduction to Rehabilitation .....3	Faculty review and approval of research paper or work experience and professional credentials <i>or</i> Grade of "C" or better
Occupational Information: find and use various sources of national, state and local occupational information; link rehabilitation recommendations to the local labor market of the person being served.	Demonstrate work experience as a job developer or placement specialist of two or more years <i>or</i> "Job Development and Placement and Occupational Information" workshop resulting in appropriate work recommendations in a written report <i>or</i> REHAB-310 Vocational Evaluation <i>or</i> REHAB-410 Job Placement .....3	Faculty review of work experience or faculty review and approval of report recommendations <i>or</i> Grade of "C" or better
Functional aspects of disability: develop knowledge of the functional characteristics of disability and understand the impact of evaluating the skill and abilities of a person with a disability.	Research paper on effect of disabling condition(s) in vocational rehabilitation <i>or</i> Test out with faculty-developed standardized test <i>or</i> REHAB-230 Psychosocial Aspects of Disability .....3	Faculty review and approval of research paper <i>or</i> 80 percent or better on the standardized test <i>or</i> Grade of "C" or better
Individualized vocational rehabilitation/evaluation planning: identify and delineate the individual needs of a person with a disability; state those needs in a plan for testing skills and abilities in relation to the accomplishment of a task or goal.	"Rehabilitation Planning" workshop resulting in written vocational rehabilitation plan <i>or</i> Work experience of two or more years, one letter of reference from a supervisor, three letters of reference from professional referral sources, and five letters of reference from consumers of services <i>or</i> REHAB-310 Vocational Evaluation .....3	Faculty review and approval of written rehabilitation plan of three separate case studies provided during workshop <i>or</i> Faculty review and approval of work experience and letters of reference <i>or</i> Grade of "C" or better
Vocational interviewing: demonstrate the development of rapport, provision of agency and assessment information, initial identification of client strengths and limitations through the vocational interview; and create an understanding of the process of vocational rehabilitation through the vocational interview.	"Vocational Interviewing and Facilitating Career Decision Making with Clients" workshop resulting in the videotaping of a vocational interview <i>or</i> Demonstrate evidence of past work experience as a vocational counselor for two or more years <i>or</i> Complete college level course work in vocational interviewing	Faculty review and approval of videotaped vocational interview <i>or</i> Faculty review and approval of work experience <i>or</i> Faculty review and approval of college level course work
Vocational report development and communication: interpret, analyze, and synthesize participant data in a coherent and concise manner that addresses needs, strengths, and assets of the participant and develops pertinent recommendations through a report shared orally and in writing with the participant/client and referral source/rehabilitation counselor.	"Vocational Rehabilitation Report Development and Communication" workshop <i>or</i> Four written reports addressing needs of four case studies presented during the workshop <i>or</i> REHAB-310 Vocational Evaluation .....3 Faculty review and approval of the written report options and letters of reference <i>or</i>	Grade of "C" or better



Intended Outcome	Learning Activity	Evaluation
Standardized testing: become familiar with the procedures for administering and interpreting standardized tests and application of tests to persons with disabilities, understand the impact of the disabling condition and the use of the most appropriate test, and develop a report explaining the impact of testing and using results with a vocational rehabilitation report.	Previous college course work in the use of psychometric testing and principles of validity and reliability <i>or</i> “Standardized Testing” workshop and paper describing use of standardized tests with persons with disabilities <i>or</i> Past work experience of two years or more where responsibilities include administering and interpreting standardized tests with a supervisor’s letter and at least one referral source/rehabilitation counselor <i>or</i> REHAB-420/620 Psychological Testing – People with Exceptional Need .....3	Faculty review and approval of previous course work <i>or</i> Faculty review and approval of workshop paper <i>or</i> Faculty review and approval of work experience and letters of recommendation <i>or</i> Grade of “C” or better
Job and Training Analysis: perform a job analysis and develop a training analysis on a given job and do a written report; use the job analysis to determine the most appropriate evaluation tools to use with a person with a disability to measure performance ability; determine appropriate training or education to prepare for the job.	Read <i>A Guide to Job Analysis</i> or <i>The Revised Handbook for Analyzing Jobs</i> , participate in an online discussion of the materials and procedures of job analysis, select a job in the community that reflects occupational choices of agency participants, prepare a job analysis report, select and describe evaluation tools most appropriate for someone interested in the occupation <i>or</i> REHAB-410 Job Placement .....3	Faculty review and approval of the job and training analysis report and online discussion <i>or</i> Grade of “C” or better
Functional Skills: use appropriate tools and strategies to evaluate the functional daily living skills of an individual with a disability, select appropriate method to determine level of functional skill, develop and use situational assessment to establish an understanding of the individual functional skills of a person with a disability.	“Functional Skills Assessment” workshop and report <i>or</i> Demonstrate evidence of past work experience of two or more years involving vocational evaluation/ functional skills assessment and/or situational assessment with two letters of reference from referral sources <i>or</i> REHAB-470/670 Work Adjustment Services.....3	Faculty review and approval of report <i>or</i> Faculty review and approval of work experience and letters of reference <i>or</i> Grade of “C” or better
Assessment of Learning: demonstrate awareness of learning styles and modalities of teaching through use of selected tests, modify test administration to the demands of the learning/teaching situation.	Previous college-level course work in educational psychology, special education, adult or vocational education that address issues of learning and learning styles and use of learning assessments <i>or</i> Paper describing learning styles and assessment of such styles, with assessment tool selection and modification	Faculty review and approval of course work <i>or</i> Faculty review and approval of paper
Work samples and work sample systems: demonstrate appropriate use of work samples and work sample systems as means of assessment within a given occupation, demonstrate appropriate use of work samples and systems with different types of disabling conditions.	“Work Sample and Work Sample Systems” workshop and research paper <i>or</i> REHAB-310 Vocational Evaluation .....3	Faculty review and approval of research paper <i>or</i> Grade of “C” or better
Behavioral Observation: observe and note behaviors of individuals during the assessment process as asset or limitation behaviors in relation to the accomplishment of a target goal.	Read appropriate, assigned material and develop a written behavior observation of five clients where observations were critiqued by at least two other professionals, including the referring counselor <i>or</i> Demonstrate evidence of work experience in vocational rehabilitation/evaluation where duties included writing and/or noting behavioral observations, with a letter from a supervisor and two from referral sources attesting to accuracy and usability of the written behavioral observations, including examples of written behavioral observations	Faculty review and approval of observations, critiques and reports <i>or</i> Faculty review and approval of work experience, letters of reference, and examples of written behavioral observations

Interpreting Course Descriptions

A typical course description in the Undergraduate Bulletin appears like this:

LIT-273 American Multicultural Literature 3 cr.

HUM LIT ESA Fall, Spring and Summer

American multicultural literature, focusing on Hispanic, African, Asian and Native American writers. Equivalent to 326-373. P: ENGL-102, ENGL-112 or ENGL-113.

and is comprised of the following components, in order:

Subject Area Code

AEC Architecture, Engineering and Construction
ANTH Anthropology
APRL Apparel Design/Manufacturing
APSC Applied Science
ART Art
ARTED Art Education
ARTH Art History
BIO Biology
BUACT Business Accounting
BUINB Business International Business
BULGL Business Legal
BUMGT Business Management
BUMIS Business Management Information Systems
BUMKG Business Marketing
BURTL Business Retail
CADD CADD/Drafting
CAHSS College of Arts, Humanites and Social Sciences
CEHHS College of Education, Health and Human Sciences
CHEM Chemistry
CNS Cognitive Neuroscience
COUN Counseling
CS Computer Science
CTE Career and Technical Education
DES Design
ECE Early Childhood Education
ECON Economics
EDUC Education
ELEC Electricity/Electronics
ENGL English
FCSE Family and Consumer Sciences Education
FN Food and Nutrition
FREN French
GCM Graphic Communications Management

GDD Game Design and Development
GEM Golf Enterprise Management
GEOG Geography
GER German
HDFS Human Development and Family Studies
HIST History
HLTED Health Education
HLTH Health
HT Hospitality and Tourism
INMGT Industrial Management
LIT Literature
LOG Logic
MATH Mathematics
MBE Marketing Education/Business Education
MECH Engineering Mechanics
MEDIA Media Technology
MFGE Manufacturing Engineering
MFGT Manufacturing Technology
MFT Marriage and Family Therapy
MSCS Mathematics, Statistics and Computer Science
MSL Military Science and Leadership
MUSIC Music
NANO Nanoscience/Nanotechnology
PE Physical Education and Athletics
PHIL Philosophy
PHYS Physics
PKG Packaging
POLS Political Science
POWER Power
PSYC Psychology
RC Risk Control
RD Design, Research and Development
REHAB Vocational Rehabilitation
SCIED Science Education
SCOUN School Counseling
SOC Sociology
SOCWK Social Work
SPAN Spanish
SPCOM Speech Communication
SPED Special Education
SRVM Service Management
STAT Statistics
STEM College of Science, Technology, Engineering and Mathematics

SUST Sustainability
TCS Telecommunication Systems
TECED Technology Education
TECH Technology
THEA Theatre
TRANS Transportation/Energy
TRDIS Transdisciplinary
TRHRD Training and Human Resource Development
WS Women's Studies

Course Level

The three digits of the course codes refer to the course level. The 100 series is primarily for freshmen; 200 – sophomores; 300 – juniors; and 400 – seniors.

Course Title

Credits

One credit hour usually represents one hour of class time per week plus two hours of out of class study.

Course Planning Information

Information on the second line of the course description helps you as you plan your course schedules.

General Education codes indicate the particular general education category the course applies to. See [General Education Requirements](#) for further clarification if needed.

COMMSK WRIT = Communication Skills -- Writing
COMMSK RDG = Communication Skills -- Reading
COMMSK SPK = Communication Skills -- Speaking
COMMSK LNG = Communication Skills -- Language

ANRSN STAT = Analytical Reasoning -- Statistics
ANRSN MATH = Analytical Reasoning -- Mathematics
ANRSN LOG = Analytical Reasoning -- Logic

H/PE ACTV = Health and Physical Education -- Activity
H/PE HLTH = Health and Physical Education -- Health

HUMART ARTMU = Humanities and the Arts -- Art History/Music Appreciation
HUMART CRPRF = Humanities and the Arts -- Creative/Performing Arts
HUMART HIST = Humanities and the Arts -- History
HUMART LIT = Humanities and the Arts -- Literature
HUMART PHIL = Humanities and the Arts -- Philosophy

SBSCI ANTH = Social and Behavioral Sciences -- Anthropology
SBSCI ECON = Social and Behavioral Sciences -- Economics
SBSCI GEOG = Social and Behavioral Sciences -- Geography
SBSCI POLS = Social and Behavioral Sciences -- Political Science
SBSCI PSYC = Social and Behavioral Sciences -- Psychology

SBSCI SOC = Social and Behavioral Sciences -- Sociology

NSCI LFSC = Natural Sciences -- Life Sciences

NSCI LFSC LAB = Natural Sciences -- Life Sciences Laboratory

NSCI PHYSC = Natural Sciences -- Physical Science

NSCI PHYSC LAB = Natural Sciences -- Physical Science Laboratory

TECH = Technology

INTER = Interdisciplinary Studies

Ethnic Studies courses are categorized as "A," "B," or "C" level and are coded **ESA**, **ESB** or **ESC**. See [Ethnic Studies Requirements](#) for further clarification if needed.

Global Perspective courses which fulfill the requirements for the global experience option are coded **GLP**. See [Global Studies Requirements](#) for further clarification if needed.

Terms Offered

The terms indicated — Fall, Spring, Summer and WinTerM — serve only as a general guide and do not guarantee that a course will be offered during a particular semester. Uncoded courses follow no usual pattern. Verify availability of a course in any given term by checking the online [Open Courses](#) listing or through [Access Stout](#) when planning your schedule.

Other Codes

P or Prerequisites: = Prerequisites are required as described.

\$ = A special course fee applies.

R = Course is repeatable for credit.

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AEC Architecture, Engineering and Construction

AEC-131 Architectural Graphics (3 cr.)

Fall and Spring

Architectural drafting with emphasis on drawing theory and delineation. Drawing media and equipment are utilized in solving problems relating to construction that are normally solved graphically.

AEC-171 Light Construction Methods and Materials (3 cr.)

Fall and Spring

The building process, terminology, codes, materials, safety requirements, tools, and equipment used in the construction industry with emphasis on residential and small commercial structures.

AEC-172 Construction Technology (3 cr.)

Fall and Spring

Technology of constructing buildings, bridges and other structures, including: site preparation, foundation systems, superstructures, enclosures, utilities, finishing methods, and materials.

AEC-190 Orientation To Construction Industry (1 cr.)

Fall and Spring

An introduction to the field of construction as presented by professionals in the construction industry to broaden student understanding and develop appreciation of the entire scope of construction.

AEC-191 The Built Environment (2 cr.)

TECH

Construction and its relationship to resources, materials, and the culture in which it takes place. Discussion of significant historical and modern structures. Emphasis on how, why, and by whom structures are built and what can be learned from them.

AEC-233 Architectural Design I (3 cr.)

Fall and Spring

Develop graphic simulation techniques and problem-solving abilities related to the architectural effectuation process. Gain an understanding of site planning, residential space requirements, building codes, structure, finishes, mechanical and electrical systems. Prerequisites: take AEC-131.

AEC-237 Architectural Technology (3 cr.)

Fall and Spring

Space programming and planning, working drawings for commercial and industrial buildings. Building codes, energy requirements, construction contract documents, structural materials and systems, building materials and systems. Prerequisites: take AEC-131.

AEC-270 Heavy Construction Methods and Equipment (3 cr.)

Fall and Spring

Introduction to commercial and industrial building systems: equipment, site preparations, footings, foundations, formwork, concrete, steel, and wood timber techniques.

Prerequisites: take AEC-171.

AEC-273 Concrete and Masonry Technology (3 cr.)

Fall and Spring

Fundamental principles of cement and concrete (ingredients, mixing, placement, finishing, curing, properties, and applications); clay and concrete units (ingredients, properties, manufacture, placement, and application). Prerequisites: take AEC-171; minimum grade C.

AEC-335 Architectural Design II (3 cr.)

Programming and analysis, design solution, presentation and design development drawings for commercial and/or public buildings; scale, site, codes, energy, acoustics, structure and their relation to form.

AEC-357 Site Engineering (3 cr.)

Fall and Spring

Use of surveying instruments, techniques, computations and computer technology used to measure and describe land configurations; construction surveying including contours, grades, cut and fill, and drainage. Prerequisites: take AEC-131 MATH-121.

AEC-370 Construction Estimating I (3 cr.)

Fall and Spring

Estimating and analyzing material, labor, equipment, methods of construction, overhead and profit, and submitting these factors in the form of a bid. Prerequisites: take AEC-237.

AEC-375 Construction Practicum (2-4 cr.)

Summer

Technical information, construction problems and actual development of light residential structure.

AEC-395 Seminar (1-2 cr.)

Summer

Masonry and procedures necessary for the implementation of masonry education into the school construction curriculum. **R**

AEC-438 Contract Requirements and Specifications (3 cr.)

Fall and Spring

Principles of contract requirements and construction specification organization. Development of basic skills of project manual preparation. Demonstration of role of specifications within the construction process and relationship to other construction contract documents. Prerequisites: take ENGL-320 or ENGL-415.

AEC-452 Environmental Systems -- HVAC (3 cr.)

Fall and Spring

Principles of heating, ventilating and air conditioning; analysis and selection of systems and equipment. Prerequisites: take PHYS-222, PHYS-241, or PHYS-281.

AEC-453 Environmental Systems -- Plumbing and Electrical (3 cr.)

Fall and Spring

Plumbing, electrical and illumination systems for light and heavy construction.

Prerequisites: take PHYS-232, PHYS-242, or PHYS-282.

AEC-458 Structural Systems -- Wood and Steel (3 cr.)

Fall and Spring

Analysis, selection, and delineation of wood and steel structural components and systems in buildings. Prerequisites: take PHYS-321.

AEC-459 Structural Systems -- Concrete and Masonry (3 cr.)

Fall and Spring

Analysis, selection, and delineation of concrete and masonry structural components and systems in buildings. Prerequisites: take AEC-458.

AEC-470 Construction Estimating II (3 cr.)

Fall and Spring

Total concept construction industry costs. Computer-based estimating systems for construction. Contracting, financing, take-off, pricing, bid preparation, resource and cost studies, control of costs and database operations.

Prerequisites: take AEC-370; minimum grade C.

AEC-471 Project Scheduling and Cost Control (3 cr.)

Fall and Spring

Total concept of construction industry: contracting, financing, bidding, planning, organizing, coordinating, and controlling functions and techniques. Prerequisites: take AEC-370; minimum grade C.

AEC-472 Management of Construction (3 cr.)

Fall and Spring

Organizing, managing and operating the contracting firm. Prerequisites: take BUMGT-304.

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Revised: April 2010

ANTH Anthropology

ANTH-220 Cultural Anthropology (3 cr.)

SBSCI ANTH ESB GLP Fall, Spring and Summer

Introduction to concepts and methods; variability of culture; outline of cultural elements; processes of cultural change.

ANTH-250 The Human Past (3 cr.)

SBSCI ANTH Fall and Spring

Biological anthropology: humans as primates, origins of humans, stages of human evolution, and relationship of biology and culture.

ANTH-300 Native Americans (3 cr.)

SBSCI ANTH ESA Fall and Spring

North American Indians: native American cultures prior to European contact, Indian/European historical relationships and contemporary reservation/urban Indian life and issues.

ANTH-420 The Anthropological Study of Family Systems (3 cr.)

Spring

Anthropological, cross-cultural view of family systems, with attention to their organization, functions, dynamics and articulation with other institutions. Senior level or higher.

ANTH-430 Ojibwe Lifeways (2-4 cr.)

ESA Summer

Indepth, interactive study of Ojibwe culture within a Wisconsin reservation community. \$

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Revised: January 2007

APRL Apparel Design/Manufacturing

APRL-101 Introduction to Apparel Design and Development 3 cr.

Fall

Introduction to the apparel design process. Analysis of design elements and principles as related to aesthetics of apparel. Cultural influences on the aesthetic response and fashion acceptance.

APRL-140 Textiles 3 cr.

Fall and Spring

Selection, use and care of clothing and household fabrics: analysis of their components.

APRL-145 Interior Decorating/Design Textiles 3 cr.

Fall and Spring

Fibers and fabrics used in design/decorating planning of residential and commercial settings.

APRL-166 Apparel Construction 3 cr.

Fall and Spring

Construction theory and principles of fitting applied to garment construction.

APRL-180 Pattern Development 3 cr.

Fall and Spring

Develop patterns for garments by flat patterning, drafting, and draping methods. Proficiency in Apparel Constr.

APRL-185 Apparel Line Development 3 cr.

Spring

Develop and present apparel lines for specific markets.

APRL-202 Quality Analysis of Sewn Products 3 cr.

Fall and Spring

Factors that influence quality levels in manufactured apparel and other sewn products. Prerequisites: take APRL-140.

APRL-211 History of Fashion-19th Century to Present 3 cr.

Spring

A study of the evolution of fashion from the 19th century to the present concentrating on the impact of the fashion designer and changing fashion trends.

APRL-250 Textile Evaluation 3 cr.

Fall

Problems in fiber identification, fabric performance and care; chemical and microscopic

testing procedures; methods for gathering and interpreting data; individual problems.
Prerequisites: take APRL-140.

APRL-274 Fashion Industry 3 cr.

GLP Fall

Processes/functional areas in a sewn product enterprise.

APRL-275 Apparel Grading/Marker Making 3 cr.

Spring

Size grade apparel patterns for various figure types. Make markers and plan cutting of fabric.

APRL-345 Textiles For Interiors 2 cr.

Spring

Raw materials, fabric structures, specifications, and legislation related to quality, performance, and maintenance of textiles for commercial and household uses.

Prerequisites: take APRL-140.

APRL-355 Special Topics in Apparel Design/ Manufacturing 1-3 cr.

Special topics in clothing and textiles. **R** Repeatable for different topics.

APRL-367 Engineered Tailoring 3 cr.

Fall

Industrial production methods applied to construction of tailored garments. Prerequisites: take APRL-166.

APRL-368 Experimental Clothing 3 cr.

Spring

Application of problem-solving techniques in designing and constructing garments using client approach. Prerequisites: take BURTL-112 APRL-140.

APRL-381 Functional Clothing Design 3 cr.

Fall

Application of physical science theory to problems in clothing design: impact protection and thermal balance of the human body, structural properties of materials, and apparel forms. Prerequisites: take APRL-180.

APRL-382 Advanced Pattern Development 3 cr.

Fall and Spring

Develop advanced patterns for garments by draping fabric and using a computer-aided design system. Prerequisites: take APRL-180.

APRL-385 CAD for Apparel Images 3 cr.

Fall and Spring

Create apparel and patterned textile images using CAD to create professional presentations appropriate to the fashion industries. Prerequisites: take APRL-185.

APRL-390 Practicum in Textile Design 3 cr.

Use of textile design techniques as means of artistic expression: stitchery, weaving, knotting, applique and hooking; emphasis on good design and creativity. Prerequisites: take ART-101.

APRL-394 Knit Design and Technology 3 cr.

Fall and Spring

Stitch formation and patterning of warp and filling knits. Influences on aesthetics and performance of knit fabrics. Design and production of knitted fabric and garments on a flat bed knitting machine, including use of CAD techniques. Prerequisites: take APRL-140 APRL-285.

APRL-405 International Study Tour to the Fashion Industry 1-6 cr.

Spring

Tour of international centers of clothing, textiles, and related arts. Study of the cultural patterns. Program includes lectures by consultants and seminars on the various phases of the fashion and fabric industries. **R**

APRL-410 History of Costume — Ancient to European 3 cr.

Fall

Development of costume throughout the ages: fashion as it reflects past cultures and influences present day costume.

APRL-419 National Study Tour to Fashion Industry 1 cr.

Fall and Spring

Five-day visit to New York or alternate city: study hours, discussions and lectures by leaders in American fashion market. Junior Level or Higher. **R**

APRL-470 Portfolio Development For Apparel Design And Development 3 cr.

Fall and Spring

A capstone course: resume and job search development; organization and updating projects from previous courses; creation of new portfolio projects that display a high level of apparel design and development skills and competencies. Prerequisites: take APRL-381, APRL-382, APRL-385, and APRL-394.

APRL-474 Apparel Product Development 3 cr.

Spring

Capstone course incorporating soft goods industrial and managerial techniques for production simulation of apparel product development. Prerequisites: take APRL-180 APRL-202 APRL-274.

APRL-480 Draping 3 cr.

Fall

Application of draping principles in design and construction of garments; emphasis on creativity.

APRL-485 Apparel Design Studio 3 cr.

Spring

Creation, development, and formal presentation of original designs using flat pattern and/or draping techniques. Preparation of professional portfolio to include CAD and other illustrative materials representative of individual expertise.

APRL-495 Historic and Contemporary Fabrics 3 cr.

Fall

Analysis of designs and techniques of decorating historic and contemporary fabrics; contribution of decorative fabrics to enrichment of human experience.

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Revised: March 2010

APSS Applied Social Science

APSS-100 Introduction to Applied Social Science (1 cr.)

Fall and Spring

Introduction to social science ideas, ethics and practices. Acquaints students with the Applied Social Science program structure and choices, as well as potential job opportunities in the field.

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Revised: April 2010

APSC Applied Science

APSC-101 Applied Science Profession I 1 cr.

Fall and Spring

Exploration of career areas of interest; examine appropriate interpretations of scientific measurements and experimental design.

APSC-311 Issues for Science Professionals 3 cr.

Fall and Spring

Proprietorial, ethical, and legal issues affecting the careers of science professionals.

Junior level or higher.

Prerequisites: take PHIL-235.

APSC-398 Field Experience in Applied Science 1-6 cr.

Field experience in Applied Science in an approved position. Guidelines for credit to follow those developed by the university for co-op experiences. Students responsible for an oral presentation and a written report.

APSC-401 Applied Science Profession II 1 cr.

Fall and Spring

Preparation for the science profession. Assess knowledge base, identify areas of strengths and weaknesses, define plan for further development. Build a professional portfolio and resume, and review interviewing skills. Explore methods of strategic planning and analysis for science professionals. Senior Level Or Higher.

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Revised: April 2008

ART Art

ART-100 Drawing I (3 cr.)

HUM CRPRF

Fall and Spring

Study and application of the principles and mechanics of descriptive freehand drawing using black and white media.

ART-101 Two-Dimensional Design Foundations (3 cr.)

HUM CRPRF

Fall and Spring

Principles and elements of two-dimensional design and their application to the foundations of visual expression.

ART-102 Introduction to Art and Design (1 cr.)

Fall and Spring

Introduction to various disciplines and activities in art and design. Not appropriate for General Education requirement.

ART-103 Three-Dimensional Design Foundations (3 cr.)

Fall and Spring

The study of the principles and elements of three-dimensional design and their application to the foundations of visual expression.

Prerequisites: take ART-101.

ART-114 Color Studio (3 cr.)

Fall, Spring and Summer

Students apply color knowledge to art and design exercises. Content covered includes the physical properties of color, the schools of color theory and influential color theorists, and color vocabulary.

ART-145 The Practice of Art (3 cr.)

Summer

Introduction to current professional practices and historical roles of artists in culture. Studio Art or Art Ed Majors only.

ART-200 Drawing II (3 cr.)

Fall and Spring

Study and application of the principles and mechanics of interpretive freehand drawing focusing on invention, and creative investigation using a variety of black and white, color, and mixed media. Prerequisites: take ART-100. **R**

ART-209 Painting I (3 cr.)

Fall, Spring and Summer

Introduction and investigation of acrylic and/or oil painting.
Prerequisites: take ART-200.

ART-211 Sculpture I (3 cr.)

Fall and Spring

Introduction to sculptural concepts.

Prerequisites: take ART-103.

ART-213 Ceramics I (3 cr.)

HUM CRPRF

Fall, Spring and Summer

Basic design and techniques of ceramic production for artist/potter; forming, firing and surface treatment.

ART-215 Art Metal I (3 cr.)

HUM CRPRF

Fall, Spring and Summer

Design and construction of jewelry and objects in precious and non-precious materials with relationship to human interaction.

ART-217 Printmaking I (3 cr.)

Fall, Spring and Summer

Introduction to the concepts and techniques of printmaking.

Prerequisites: take ART-101 and ART-200.

ART-256 Art Workshop (1-3 cr.)

Fall, Spring and Summer

Selected art concepts, processes and media will vary to serve special student populations.
Credit determined by individual contract.

ART-300 Drawing III (3 cr.)

Advanced Drawing methodologies with emphasis on media exploration, furthering drawing strategies, exposure to historical and current drawing concerns and independent research.

Prerequisites: ART-200. **R**

ART-301 Life Drawing I (3 cr.)

Fall and Spring

Drawing and analyzing the human figure and other natural forms. Translating three-dimensional form to the two-dimensional picture plane.

Prerequisites: take ART-200.

ART-307 Aesthetics and Contemporary Art Theory (3 cr.)

Fall and Spring

Introduction to the problems of aesthetics and contemporary art theory, e.g., interpretation, creation, and experience of art.

Prerequisites: take ARTH-223, ARTH-224, and ART-145; and take ARTH-336 or ARTH-337.

ART-401 Life Drawing II (1-3 cr.)

Fall and Spring

Advanced problems in figure composition and graphic interpretation of the figure. Initial enrollment must be for 3 credits.

Prerequisites: take ART-301. **R**

ART-409 Painting II (1-3 cr.)

Fall, Spring and Summer

Continued investigation of painting issues with a broader range of technical concerns, historical and contemporary approaches through expanded research requirements.

Prerequisites: take ART-209. **R**

ART-410 Painting III (3 cr.)

Fall and Spring

Self-directed study of painting. Continued development of individual research, painting skills, and studio discipline.

Prerequisites: take ART-409.

ART-411 Sculpture II (1-3 cr.)

Fall and Spring

Advanced problems in sculpture; exploitation of media for creative and expressive ends.

Initial enrollment must be for 3 credits.

Prerequisites: take ART-211. **R**

ART-413 Ceramics II (1-3 cr.)

Fall, Spring and Summer

Use of clay, glazes and kiln for design and production of high-fired ceramics. Initial enrollment must be for 3 credits.

Prerequisites: take ART-213. **R**

ART-414 Color Seminar (4 cr.)

Fall and Spring

A case-study course exploring methodologies for use of color. Content includes gender-specific, historic, psychological, social, and symbolic use of color; color sensibilities in other cultures; and roots of color beliefs.

Prerequisites: take PHYS-150, PSYC-432, GCM-367 and ART-114.

ART-415 Art Metal II (1-3 cr.)

Fall, Spring and Summer

Advanced problems in design and construction of jewelry, hollow forms and objects in precious and non-precious materials. Initial enrollment must be for 3 credits.

Prerequisites: take ART-215. **R**

ART-417 Printmaking II (1-3 cr.)

Fall, Spring and Summer

Advanced work in the processes of relief, silkscreen, etching or lithographic printmaking.

Initial enrollment must be for 3 credits.

Prerequisites: take ART-217. **R**

ART-445 Senior Seminar (1 cr.)

Summer

Professional practice including portfolio and senior exhibition; current ideas and career opportunities within the art profession. Senior Level Or Higher. Studio Art or Art Ed Mj Only.

Prerequisites: take ART-145 and ART-307 (can be taken concurrently)

ART-456 Advanced Art Workshop (1-3 cr.)

Selected art concepts, processes and media will vary to serve special student populations.

For students familiar with workshop approach or advanced in art program. Credit determined by individual contract. **R**

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The Undergraduate Bulletin
Revised: January 2009

ARTED Art Education

ARTED-108 Introduction To Art Education (2 cr.)

Fall

Introduction to the Art education field, responsibilities of art teachers, literature, and current issues in the profession.

ARTED-208 Preteaching Observation (2 cr.)

Fall

Examination of K-12 art teaching methods and practices through on-site observations, discussion and related coursework. Required 30 hours of K-12 art classroom observation. Education majors only; must have completed Benchmark I.

Prerequisites: take ARTED-108.

ARTED-308 K-12 Art Education Theory, Methods, and Practice (4 cr.)

Spring

Theory, methods, and curriculum development in art education including K-12 art teaching practicum in selected elementary and secondary art classrooms. Education majors only; must have completed Benchmark I.

ARTED-408 Student Teaching in Art Education — Elementary (8 cr.)

Fall and Spring

Directed teaching in elementary art; required student teaching seminars, on-line course participation, and completion of portfolio. Education majors only; must have completed Benchmark I.

ARTED-409 Student Teaching in Art Education — Secondary (8 cr.)

Fall and Spring

Directed teaching in secondary art; required student teaching seminars, on-line course participation, and completion of portfolio. Education majors only; must have completed Benchmark I.

ARTED-488 Intern Teaching: Art Education (8-16 cr.)

Fall and Spring

Alternative method of obtaining Art Education student teaching experience. Interns receive license to teach and salaried appointment in a cooperating school for one semester. School of Education permission required.

Prerequisites: take ARTED-208, EDUC-303, EDUC-312, EDUC-326, EDUC-336, EDUC-376, EDUC-382, SPED-430.

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ARTH Art History

ARTH-222 Introduction To Art (3 cr.)

HUM/ARTMU

Fall

Art appreciation and historical survey for the non-art major.

ARTH-223 Survey of Art--Ancient Through Medieval (3 cr.)

HUM/ARTMU

The painting, sculpture, architecture and minor arts in the ancient western world.

ARTH-224 Survey of Art-Renaissance through 20th Century (3 cr.)

HUM/ARTMU

Sculpture, painting, architecture and minor arts of western world from fourteenth century to present.

ARTH-225 Introduction to Non-Western Art (3 cr.)

GLP

Cross cultural examination of the history of Non-Western art from a global perspective. Exploration of the arts of Asia, Africa, the Americas, Oceania, and the Islamic world. Exposure to diverse visual elements and humanistic concerns. Themes include: diversity, identity, religion, politics, representation of self and "the other", and Westernization.

ARTH-250 British Art, Architecture, and Design (3 cr.)

HUM/ARTMU GLP

Summer

Survey of the art, architecture, and design of Great Britain, with travel to the British Isles.

ARTH-256 Special Topics in Art History (3 cr.)

Study of topics not covered in existing Art History courses, or more detailed study of a topic introduced, but not emphasized, in existing Art History courses.

ARTH-319 History of Design (3 cr.)

Summer

Survey of the history of modern design since its origins in the late Renaissance. Prerequisites: take ARTH-224 and ENGL-101, or take ARTH-224 and ENGL-111.

ARTH-326 Greek and Roman Art (3 cr.)

The arts of ancient Greece and Rome.

ARTH-327 Medieval Art (3 cr.)

The arts of Europe and Byzantium from late Roman Empire to end of Middle Ages.

ARTH-328 Italian Renaissance Art (3 cr.)

A chronological, geographic, and thematic survey of art and architecture in Italy from the Fourteenth through the Sixteenth Centuries.

ARTH-329 Northern Renaissance Art (3 cr.)

A chronological, geographic, and thematic survey of art in Northern Europe during the late fourteenth, fifteenth, and sixteenth centuries.

ARTH-330 Baroque Art (3 cr.)

A chronological, geographic and thematic survey of art and architecture in Europe and the colonial New World in the seventeenth and early eighteenth centuries.

ARTH-332 Gender and Art (3 cr.)

Spring

Exploration of social and cultural constructions of identity and sexuality from Prehistory to the Modern era. Analysis of the ways in which gender identities can be shaped by politics, religion, and culture, and how an artist's gender and/or sexual preferences affect visual imagery, from subject choices to market values.

ARTH-333 History of Interiors and Furnishings (3 cr.)

GLP Fall

Survey of the history of interior design, furniture, and household objects since ancient Egypt.

ARTH-335 19th Century Art in Europe (3 cr.)

History of European art from about 1800 to 1900.

ARTH-336 Modern Art (3 cr.)

Fall

The main currents and developments in art from Monet and Cezanne to 1950.

ARTH-337 Art Since 1950 (3 cr.)

Developments in painting and sculpture in Europe and America since 1950. Prerequisites: take ARTH-224.

ARTH-339 Japanese Art and Culture (3 cr.)

GLP

Thematic survey of the art and culture of Japan from pre-history to the present day. Recognition of major styles, appreciation of Eastern cultural ideals, familiarity with influences and borrowings from the West. Class discussions include religion (Shinto, Buddhism), art, culture (tea ceremonies, Kabuki Theater) and literature.

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The Undergraduate Bulletin

Reviewed: July 2010

Undergraduate Bulletin University of Wisconsin-Stout

BIO Biology

BIO-101 Introductory Biology (4 cr.)

NSCI LFSC LAB

Fall and Spring

Introduction to the science of biology including life processes, cell biology, genetics, molecular biology, evolution, ecology, plant and animal diversity. Life systems are viewed from the sub-cellular to the community level, emphasizing the diversity, functioning, and interaction of whole organisms.

BIO-111 Science, Society, and the Environment (4 cr.)

NSCI LFSC LAB GLP

Fall and Spring

Relationship of humans to the natural environment. Ecological principles in relation to contemporary problems such as resource utilization, species extinction, human population dynamics, waste, and pollution generation and control. \$

BIO-122 Introductory Biology (3 cr.)

NSCI LFSC LAB

Principles of biology: cellular metabolism, heredity and relationships between living organisms and their environments, with laboratory.

BIO-125 Biology of Aging (3 cr.)

NSCI LFSC

Understanding the aging process. Physiological, demographic, immunological and overall health aspects of aging.

BIO-128 Community Health (2 cr.)

HPE HLTH

Summer and Winterm

Disease prevention through education, sanitation, isolation and immunization; public health programs and operation of federal and state laws.

BIO-130 Human Sexual Biology (3 cr.)

NSCI LFSC

Male and female differentiation, development, structure, function and diseases of the reproductive system. Sperm and ovum production, fertility control, pregnancy, birth and lactation, mechanisms and patterns of inheritance.

BIO-132 Human Biology (4 cr.)

NSCI LFSC LAB

Fall and Spring

Basic concepts of physiological processes and anatomy of all organ systems of humans, based on dissection of a cat; embryological development.

BIO-135 Organismal Biology (4 cr.)

Fall

Introduction to the biological sciences, including evolution, an overview of life's diversity, plant biology, animal biology, and ecology. Emphasis on scientific thought processes, laboratory skills, and communication skills. H.S. Biology required; for Applied Science majors only.

BIO-136 College Molecular Cell Biology I (5 cr.)

Fall and Spring

Introduction to the biological sciences, including cell biology, physiology, and molecular biology. Emphasis on scientific thought processes, laboratory skills, and communication skills. For Applied Science majors and Biology minors.

BIO-141 Plants and People (4 cr.)

NSCI LFSC LAB GLP

Investigation into the global economic and cultural importance of plants, how aspects of plant biology have played historical roles in shaping societies around the world, and the roles of plants in solving future societal problems.

BIO-150 Environmental Science (2 cr.)

NSCI LFSC GLP

The relationship of humans to the natural environment. Study of ecological principles in relation to contemporary problems such as resource utilization, human population dynamics, waste and pollution control.

BIO-210 Concepts and Issues in Biotechnology (2 cr.)

NSCI LFSC TECH GLP

Summer and Winterm

Concepts and issues in the field of Biotechnology. Overview of stem cell research, cloning, tissue engineering, artificial organs, genetically modified foods, and others as appropriate.

BIO-220 Physiology of Disabilities (3 cr.)

Spring

Causes, consequences, prognoses and treatments of diseases and injuries common in today's society. Includes genetic disorders, birth defects, cancers, degenerative disorders, spinal cord injuries, cardiovascular abnormalities and immune disorders.

Prerequisite: take BIO-132 or BIO-134.

BIO-234 Physiology and Anatomy (4 cr.)

NSCI LFSC LAB

Fall and Spring

The structure and function of the human organism at the cellular, organ, and organism levels with emphasis on the physiological control systems and the concept of homeostasis as the unifying concept in physiology.

Prerequisites: take BIO-101, CHEM-125 or CHEM-135.

BIO-235 Molecular Cell Biology II (4 cr.)

Spring

Consideration of eukaryotic cell structure, function and processes.

Prerequisites: take BIO-136 CHEM-136.

BIO-242 Botany (4 cr.)

NSCI LFSC LAB

Introduction to structure and function of plants, survey of plant kingdom, and structure and life history of representative forms of plant life.

BIO-252 Zoology (4 cr.)

Investigation of vertebrate and invertebrate animal life. Diversity, physiology and adaptation of the animal species.

BIO-255 The Biology of Fly Fishing (2 cr.)

NSCI LFSC

The science and art of fly fishing. Research aquatic environments and ecosystem dynamics to understand the relationship between fish and the world around them. Gain exposure to aquatic ecology, fish and insect identification and behavior, and fly tying.

BIO-260 Ichthyology - Wisconsin Fishes (4 cr.)

NSCI LFSC LAB

Summer

Introduction to the study of fishes, including morphology, taxonomy, classification, evolution, behavior, and general ecology of fishes. Special emphases on field identification of Wisconsin fishes, management of Wisconsin fish populations, and global conservation of fishes.

BIO-306 General Microbiology (4 cr.)

Fall and Spring

Introduction to microbial life forms including Archaea, Bacteria, and Eukarya. Survey of microbial cell biology, physiology, molecular biology, ecology, and pathogenesis.

Bacteriological and molecular methods used to identify microorganisms in natural and artificial environments. Prerequisite: take BIO-101 or take 1 CHEM course.

BIO-322 Plant Pathology (3 cr.)

Survey of the principles and concepts of plant pathology, including the impact of plant disease to crop production, environment and society.

Prerequisites: take BIO-242.

BIO-324 Vascular Plant Taxonomy (3 cr.)

Plant classification, identification, and evolution. Focus on flowering plant families of the Upper Midwest. Field trips and plant collection required.

Prerequisites: take BIO-242.

BIO-332 Genetics (3 cr.)

Fundamental principles of genetics, from Mendel

to the present; applications to plants, animals and humans. Laboratory reinforces principles studied in lecture and includes performance of genetic crosses, the cell, mitosis/meiosis, use of mathematical tools to analyze data, gene mapping, karyotyping, pedigree analysis, and the concepts of transformation/transduction.

Prerequisites: take BIO-101.

BIO-343 Plant Physiology (4 cr.)

Spring

The study of the fundamental physiological processes of plants including investigation of the mechanical, physical and biochemical functions of plants.

Prerequisites: take BIO-242 and 100-level CHEM or higher.

BIO-350 Ecology (3 cr.)

Interrelationships of organisms with their abiotic and biotic environments.

Prerequisites: take BIO-111 or BIO-135 or BIO-141.

BIO-351 Ecology Laboratory (2 cr.)

LAB

Applications of ecological methods to answering ecological questions, including research study development, data analysis, and interpretation.

Prerequisites: take BIO-350 or concurrent enrollment.

BIO-352 Plant Ecology (4 cr.)

Investigation into factors affecting the distribution and abundance of plants. Laboratory and discussion emphasis on using field sampling, GIS, current research, and restoration techniques to identify and solve plant resource management problems. Weekend field trip(s) required.

Prerequisites: take BIO-242.

BIO-358 Introductory Pharmacology (2 cr.)

Discussion of the sites and mechanisms of drug action, mechanisms of drug distribution, biotransformation and elimination. Analgesics and psychoactive drugs, drugs used clinically to impact cardiovascular care and to manipulate the reproductive system.

Prerequisite: take BIO-132, BIO-234 or CHEM-135.

BIO-360 Introduction to Neuroscience (3 cr.)

Investigation of the human nervous system at the molecular, cellular and system level. Organization and function of neuronal cells, sensory receptors, sensory and motor pathways and integration centers. Introduction to electro- physiology, biochemistry of neurotransmitters and receptors, neuropharmacology, development of the nervous system, and consequences of neuronal disease and trauma.

Prerequisite: take BIO-132 or BIO-234.

BIO-361 Psychobiology (2 cr.)

Biological basis of human and animal behavior: evolution of physiological and behavioral adaptations of organisms to their environment.

BIO-362 Advanced Physiology (3 cr.)

Fall and Spring

Human physiology with emphasis on integration of the nervous, muscular, cardiovascular, immune, renal, respiratory, digestive and endocrine systems. Cellular and molecular processes are studied. Computer simulations and experiments in frog physiology will be utilized.

Prerequisite: take BIO-234.

BIO-370 Biotechnology (3 cr.)

Spring

Theoretical and laboratory experience in recombinant DNA techniques and their applications in the biotechnology industry.

Prerequisites: take CHEM-201 and BIO-235.

BIO-372 Plant Biotechnology (3 cr.)

Fall

Presents an overview of the techniques and underlying theory of plant tissue culture and

genetic engineering, research and commercial application, and issues/challenges in the area of plant biotechnology.

Prerequisites: take BIO-136, BIO-235 and BIO-242.

BIO-400 Special Topics in Biotechnology (1-2 cr.)

Fall and Spring

Topics of current or historical importance in the understanding of biotechnology.

Designated topics announced prior to start of semester. May be repeated for elective credit. Junior Level Or Higher. **R**

BIO-406 Food Microbiology (3 cr.)

Methods of food preservation, their effectiveness and related food spoilage by microorganisms. Quality control techniques used to determine presence of specific groups of economically important microorganisms.

Prerequisite: take BIO-306.

BIO-425 Proteomics (3 cr.)

This course provides state-of-the-art training in proteomics. Students will solve biological research questions and operate proteomics equipment such as chromatography devices and mass spectrometers.

Prerequisite: take BIO-235 and concurrent enrollment in CHEM-311, or consent of instructor.

BIO-444 Problems in Environmental Sustainability (3 cr.)

Integrate knowledge, theory, and practice from the humanities, social and natural sciences to explore current environmental issues and challenges. Junior Level Or Higher.

Prerequisites: take BIO-350.

BIO-470 Advanced Biotechnology (5 cr.)

Spring

Molecular biotechnology, including manipulation of prokaryotic and eukaryotic cells, computer analysis of genomic and proteomic data, and applications in the biotechnology industry. Prerequisites: take BIO-235 and BIO-370.

BIO-489 Advanced Biology Experience (1-4 cr.)

Fall, Spring and Summer

Experiences leading to deeper understanding of biological principles. Junior level or higher.

R

BIO-493 Bioinformatics Practicum (3 cr.)

Spring

Experiences leading to a deeper understanding of bioinformatics through participation in a "linked-courses" interdisciplinary learning community. Students will complete a faculty-advised semester research project, write a senior thesis describing their project, present the results in an appropriate research forum, and participate in the learning community journal club.

Prerequisites: take MSCS-492.

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Updated: March 2010

BUACT Business Accounting

BUACT-200 Financial-Managerial Accounting – Engineering Technology (2 cr.)

Fall and Spring

Survey of financial accounting concepts for a sole proprietorship, partnership, and corporation. Managerial accounting concepts will be covered in use of the annual report, with emphasis on financial statement analysis.

BUACT-201 Financial-Managerial Accounting (3 cr.)

Fall and Spring

Survey of financial accounting concepts for a sole proprietorship, partnership and corporation. Managerial accounting concepts will be covered in the use of the annual report, with emphasis on financial statement analysis including the cash flow statement and budgets. For Engineering Technology and Industrial Management majors only.

BUACT-206 Introduction to Financial Accounting (3 cr.)

Fall, Spring and Summer

Theory of debit and credit, principles of accounting records, modern business papers, working sheets, balance sheets and income statements, and sole proprietorships. Sophomore level or higher.

BUACT-207 Introduction - Corporate and Managerial Accounting (3 cr.)

Fall, Spring and Summer

Development of basic accounting theory from BUACT-206: partnership and corporate forms of organization; branch and manufacturing accounting; cost accounting, budgeting and analysis and interpretation of financial statements. Prerequisites: take BUACT-206.

BUACT-312 Cost Accounting (3 cr.)

Fall and Spring

Emphasis on concepts and techniques of cost analysis. Application of cost information and discussion of techniques and budgeting. Equivalent to BUACT-410. Prerequisites: take BUACT-206.

BUACT-320 Income Tax Accounting (3 cr.)

Fall and Spring

General concepts of U.S. tax law and its effect on individual, partnership, and corporate decisions; computation of federal and state taxes for individuals. Prerequisites: take BUACT-206.

BUACT-335 Accounting for Management Decisions (3 cr.)

Fall and Spring

Interpretation of financial statements, internal control, budgeting, costing of products manufactured and sold, analysis of cost-volume-profit decisions. Data presented without mechanical techniques. Prerequisites: take BUACT-207.

BUACT-340 Business Finance (3 cr.)

Fall, Spring and Summer

Concepts of raising, allocating and controlling capital for business entities; analysis of the income tax system and its relevance with business decisions; analysis of financial data in making investment decisions. Prerequisites: take BUACT-207 and STAT-130 and MATH-123.

BUACT-346 Seminar (1-3 cr.)

Current topics in business. (Title will reflect specific business content.) **R**

BUACT-410 Manufacturing Cost Analysis (3 cr.)

Fall and Spring

Emphasis on concepts and techniques of cost analysis. Application of cost information and discussion of techniques and budgeting for a manufacturer. Equivalent to BUACT-312.

Prerequisites: take BUACT-206 or BUACT-201.

BUACT-498 Business Accounting Field Experience (1-2 cr.)

Off-campus work and study in an approved position to better understand the challenges of being an effective manager. **R**

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Revised: May 2005

BUINB Business International Business

BUINB-260 Introduction to International Business (3 cr.)

GLP Fall and Spring

Introduction to the interaction of foreign business, politics, culture, societies on basic international business systems. Basic terminology of International Business is of primary importance. Sophomore level or higher.

BUINB-338 International Logistics (3 cr.)

Spring

International logistics strategy: customer service, inventory, transportation, packaging, warehousing, storage, exporting, licensure, joint ventures, ownership documentation, terms of trading, organization, financial and management skills. Prerequisites: take BUMKG-438

BUINB-367 International Management (3 cr.)

GLP

Theory and practice of managing international organizations, including socio-cultural aspects and group dynamics of international businesses and service organizations.

Prerequisites: take BUMGT-304.

BUINB-485 International Marketing (3 cr.)

GLP Fall and Spring

Principles and policies of marketing goods and services in international markets. Concepts, strategies and policies of world trade and multinational firms. Prerequisites: take BUMKG-330.

BUINB-488 International Business Practicum (3 cr.)

Fall and Spring

Assist an actual business in developing their international marketing plan. Students, under the supervision of a faculty member, determine a product's foreign marketability.

Prerequisites: take BUINB-485.

BUINB-489 International Business Policies (3 cr.)

GLP Fall and Spring

Students develop the ability to solve business problems in the international arena using a scientific approach to decision making by studying business cases on international policy formulation and administration, manufacturing, marketing, finance, accounting, personnel and public relations functions. Senior level or higher. Prerequisites: Take one course from BUINB, take BUMGT-304, BUMKG-330 or BUACT-340, and take ECON-210 or ECON-201.

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Revised: February 2007

BULGL Business Legal

BULGL-318 Business Law I (3 cr.)

Fall, Spring and Summer

Introduction to the nature of law, the legal system and the judicial process; also includes contracts, sales of goods and agency. Junior level or higher.

BULGL-319 Business Law II (3 cr.)

A continuation of Business Law I; includes property, secured transactions, bankruptcy, estates, commercial paper, partnerships, and corporations. Prerequisites: take BULGL-318.

BULGL-346 Seminar (1-3 cr.)

Current topics in business. (Title will reflect specific business content.) **R**

BULGL-365 Principles of Real Estate (2 cr.)

Fall and Spring

Overview of transactions in real estate, examination of the law as it relates to nature of real property, interests in real property, acquiring ownership, brokerage, real estate sales contracts, financing, land use control, and leasing and property management.

BULGL-401 Legal Environment of Business (2 cr.)

Fall and Spring

Changing relationship of government and industry: regulatory legislation, administrative agencies, national policies and social control.

BULGL-430 Real Estate Law (3 cr.)

Legal relationships involved in Real Estate law including owning, leasing, managing and selling interests in real property.

Prerequisite: take BULGL-365.

BULGL-473 Legal Aspects of Construction (3 cr.)

Fall

Analysis of contracts and documents used in building construction industry: rights of the parties. Labor relations: law and labor, legality of strikes, legality of picketing and boycott as economic pressure, unfair labor practices, employer and union, rights and responsibilities of supervisor and worker.

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BUMGT Business Management

BUMGT-100 Introduction to Business Administration (1 cr.)

Fall and Spring

Basic business systems processes, their interrelationships and role of business environment. Business Administration Program: advisement, course sequence and job opportunities. General Business Administration majors only.

BUMGT-115 Understanding Business (2 cr.)

Concepts, functions, and interrelationships of various subdivisions of service and production organizations. Equivalent to BUMGT-116.

BUMGT-116 Fundamentals of Business (3 cr.)

Summer

Fundamental exploration of contemporary business practices. Emphasis on case studies and computer simulations related to external business conditions impacting the organization.

Equivalent to BUMGT-115.

BUMGT-304 Principles of Management (3 cr.)

Fall, Spring and Summer

Basic managerial functions: planning, organizing, staffing, directing and controlling; management principles with universal applications; nature of authority and responsibility, departmentation, line and staff relations; enterprise manager in the social setting, comparative management; and management and the future.

BUMGT-346 Seminar (1-3 cr.)

Fall, Spring and Summer

Current topics in business. (Title will reflect specific business content.) **R**

BUMGT-398 Business Administration Field Experience (1-2 cr.)

Fall, Spring and Summer

Off-campus work and study in an approved position to better understand the challenges of being an effective manager. **R**

BUMGT-480 Entrepreneurship: Small Business Planning (3 cr.)

Fall and Spring

Concepts, strategies, and applications involved in entrepreneurship. Profile of entrepreneurs and the risks and rewards, creating products and services for the market place, going into business --start-up, buy out, franchise— legal and financial aspects. Preparing a business plan required.

Prerequisites: take BUMKG-330, BUACT-206 or BUACT-200.

BUMGT-489 Business and Industrial Internship(1-8 cr.)

Fall, Spring and Summer

Off-campus work and study in student's area of concentration; approved salaried position with cooperating company for a semester or summer session. Junior level or higher. **R**

BUMGT-490 Strategic Management and Business Policy (3 cr.)

Fall and Spring

Integrates previous business studies, develops ability to solve business problems through scientific approaches to decision-making. Students use business cases on policy formulation and administration: manufacturing, marketing, finance, accounting, personnel, and public relations functions. Senior level or higher. Prerequisites: Take BUMKG-330 and BUACT-340, and take ECON-210 or ECON-201.

BUMGT-498 Business Administration Field Experience (1-2 cr.)

Fall, Spring and Summer

Off-campus work and study in an approved position to better understand the challenges of being an effective manager. **R**

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Revised: February 2007

BUMIS Business Management Information Systems

BUMIS-333 Management Information Systems - Decision Support Systems (3 cr.)

Fall, Spring and Summer

Improving the practice of business management through utilization of computer software based management information systems (MIS). Employs spreadsheet software as an aid to management in making, implementing and controlling decisions. Prerequisites: take BUACT-206.

BUMIS-346 Seminar (1-3 cr.)

Current topics in business. (Title will reflect specific business content.) **R**

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Revised: May 2005

BUMKG Business Marketing

BUMKG-308 Marketing for Non-Profit Organizations 2 cr.

WinTerM

Strategic marketing planning process, marketing audit, marketing strategy development, positioning concept, market research, marketing mix, communication strategies and ethical issues for non-profit organizations. Sophomore level or higher. Equivalent to BUMKG-346.

BUMKG-330 Principles of Marketing 3 cr.

Fall, Spring and Summer

Retail, wholesale, advertising, channels of distribution, cooperative marketing, pricing, marketing research and marketing legislation from consumer's, middleman's and manufacturer's standpoint.

BUMKG-334 Professional Selling and Market Development 3 cr.

Fall, Spring and Summer

Overview of selling as a profession; building relationships; the selling process, including prospecting, preparing, presenting, handling objections, closing and servicing accounts; developing markets; and territory management.

Prerequisites: take BUMKG-330.

BUMKG-335 Sales Management 3 cr.

Fall and Spring

Comprehensive survey of sales force management; organizing, staffing, and training a sales force; directing sales force operations; sales planning; and evaluating sales performance.

Prerequisites: take BUMKG-334

BUMKG-337 Procurement, Sourcing and Supply Chain Management 3 cr.

Fall and Spring

Processes used in procuring goods and services; analyzing and selecting global sources of supply; economics of total cost of ownership; importance of quality, delivery, ethics, and legal aspects of supplier management; negotiation principle. Recommended: proficiency with spreadsheet software.

Prerequisites: take BUMKG-330.

BUMKG-346 Seminar 1-3 cr.

Current topics in business marketing. (Title will reflect specific content.) **R**

BUMKG-350 E-Business Strategy and Practice 3 cr.

Fall and Spring

Development and growth of Internet marketing. An examination of e-business basics, business models, current and future trends, major issues, evaluation of model design and Internet marketing plans. Sophomore level or higher.

BUMKG-370 Principles of Advertising 3 cr.

Fall and Spring

Psychological, social and economic aspects of advertising in relationship to other aspects of distribution and its place in modern business.

Prerequisites: take BUMKG-330.

BUMKG-385 Target Marketing 3 cr.

The study and application of methods used to identify viable market segments; use of demographic, psychographic and cultural research findings to successfully market products and services to various market segments.

Prerequisites: take BUMKG-330.

BUMKG-436 Marketing Management 3 cr.

Fall and Spring

Examination of the marketing place with emphasis on unique characteristics of the marketing environment. Special emphasis on case study analysis and discussion.

Advanced marketing course required.

Prerequisites: take BUMKG-330 and BUACT-207.

BUMKG-438 Principles of Logistics 3 cr.

Fall and Spring

Applies systems approach to plan movement and storage of raw materials, components and finished goods from point of origin to point of consumption. Focuses on transportation and warehousing decisions, channel structures, physical distribution, materials management, and supply chain concepts.

Prerequisites: take BUMKG-330.

BUMKG-439 Seminar: Supply Chain Systems Design 3 cr.

Spring

Synthesizing experience in supply chain, cases, problems and team/individual research will focus on analyzing, designing and modeling cost effective supply chain systems that utilize innovative technology and business practices for procuring, manufacturing, storing and moving goods from suppliers, manufacturers, distributors, retailers and end customer.

Prerequisites: take BUMK-438 and INMGT-305.

BUMKG-479 Marketing Research 3 cr.

Fall and Spring

Experimental and survey techniques to secure information for successful marketing; primary and secondary sources; data collection, compilation and analysis methods; effective communication of conclusions and recommendations to management.

Prerequisites: Take BUMKG-330; and take STAT-130, STAT-320, STAT-331, or ECON-325.

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Revised: April 2007

BURTL Business Retail

BURTL-105 Introduction to Retail Merchandising and Management (1 cr.)

Fall

Exploration of origin, structure and trends in retail business. Includes industry expectations, career opportunities, curriculum and other requirements, and industry periodicals.

BURTL-127 Basic Merchandising (3 cr.)

Fall and Spring

Analyzing the retailing process, the environment within which it operates, and the institutions and functions that are performed. A foundation for students who plan to work in retailing or related disciplines.

BURTL-212 Trend Tracking and Forecasting (3 cr.)

Fall

Tracking and forecasting of product and consumer trends based on product lifecycle trends, fashion theories, socioeconomic and cultural factors, lifestyles, psychographic and demographic trends in the marketplace.

BURTL-222 Computer Applications (2 cr.)

Microcomputer applications. Analysis of appropriate data bases. Evaluation of software. Hardware selection criteria appropriate to applications. Comparison of mainframe and microcomputer appropriate applications. Prediction of future applications. Repeatable for various subunits.

BURTL-229 Visual Merchandising (3 cr.)

Spring

Specialized study and application of merchandise/ product presentation techniques for individual displays and store designs. Interpreting basic design elements and principles for display; selecting and using of appropriate tools, fixtures, and materials; coordinating visual presentations and other promotional activities to achieve marketing objectives.

BURTL-319 International Economic Trends in Textiles and Clothing (3 cr.)

GLP Fall and Spring

Economic importance of the textile and apparel industries in the United States and the world.

Prerequisites: take APRL-140 and ECON-210.

BURTL-322 Merchandising and Marketing an Apparel Line (2 cr.)

Spring

Merchandising and marketing of product lines from manufacturer to retailer to

consumer. Prerequisites: take BURTL-227.

BURTL-327 Store Management (3 cr.)

Fall and Spring

Develop management skills for retail stores of varying size. Senior level or higher.

Prerequisites: take BURTL-430.

BURTL-329 Retail Promotions (3 cr.)

Fall

Planning and execution of all the promotional messages used to communicate with members of a target market.

Prerequisites: take BURTL-127.

BURTL-335 Special Topics in Retail Merchandising and Management (1-3 cr.)

Fall, Spring and Summer **R**

BURTL-350 Marketing to Aging and Minority Consumers (2 cr.)

Fall

Identify product and service needs of Native, African, Asian and Hispanic Americans, and aging consumers. Interpret demographic, psychological and cultural data of these special populations and develop merchandising strategies.

Prerequisites: take BUMKG-330.

BURTL-390 Merchandise Planning and Control (4 cr.)

Fall and Spring

Techniques for financial and unit planning, procurement and control of inventories for successful retail operations.

Prerequisites: take BUACT-206.

BURTL-395 Assortment Planning (3 cr.)

Fall and Spring

Methods of optimizing retail product assortments to gain a competitive advantage.

Prerequisites: BURTL-390 and APRL-202.

BURTL-398 Field Experience (1-2 cr.)

Off-campus work and study in approved position to better understand challenges and potentials of various careers in merchandising and clothing and textile industries. **R**.

BURTL-417 Social/Psychological Aspects of Clothing (3 cr.)

GLP Fall and Spring

Social and psychological influence of dress on individual and group behavior patterns.

BURTL-419 National Study Tour to Fashion Industry (1 cr.)

Fall and Spring

Five-day visit to New York or alternate city: study hours, discussions and lectures by leaders in American fashion market. Junior Level or Higher. **R**

BURTL-425 Current Retail Strategies for a Differential Advantage (2 cr.)

Fall and Spring

Comparative analysis of specific retail corporations' strategies to gain a differential advantage with their merchandising and operational methodology. Senior level or higher.

Prerequisites: take BURTL-127

BURTL-426 Fashion Retailing Practicum (4 cr.)

Fall, Spring and Summer

Observation and structured experience in merchandising procedures dealing with complete operations and management of retail establishment.

Prerequisites: take BURTL-329 and BURTL-430.

BURTL-450 Retail Practicum I (2 cr.)

Fall, Spring and Summer

Strategic planning for merchandising and operating the student-operated laboratory store to include market analysis, assortment planning, product development, merchandise procurement, promotional planning, merchandise planning, merchandise presentation and store layout.

Prerequisites: take BURTL-390.

BURTL-451 Retail Practicum II (2 cr.)

Fall, Spring and Summer

Structured experience in executing the merchandising and operation plan developed in Retail Practicum I to include evaluation of retail performance and projections for continuing operation of the student-operated retail store.

Prerequisites: take BURTL-390 and BURTL-450.

BURTL-477 Study Abroad - American Fashion College (16 cr.)

Fall

A program for selected students which offers an opportunity to study at the American Fashion College in London with the opportunity to travel in Europe. 2.5 GPA in Professional Core. Apparel Design and Development or Retail Merchandising and Management majors only.

BURTL-490 Advanced Merchandise Planning Control (3 cr.)

Fall and Spring

Application of merchandise theory and techniques to budget, manage, and adjust actual purchases, inventory, and sales of an actual retail business.

Prerequisites: take BURTL-430.

BURTL-498 Field Experience (1-2 cr.)

Off-campus work and study in approved position to better understand challenges and potentials of various careers in merchandising and clothing and textile industries. **R**

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Revised: March 2008

CADD CADD/Drafting

CADD-112 Principles of Engineering Drawing 3 cr.

Drafting principles, concepts, and graphic language necessary to communicate technical information on industrial drawings through sketching, traditional drafting (TRAD) and computer (CAD) techniques.

CADD-113 Principles of Engineering Drawing II 2-3 cr.

An advanced study of drafting principles, concepts and techniques using the graphic language necessary to communicate with manufacturing personnel, floor workers, designers and engineers. Reading, research analysis and graphic solutions using sketches, traditional (TRAD) and computer (CAD) drafting are used.

Prerequisites: take CADD-112.

CADD-234 Computer-Assisted Design and Drafting 2 cr.

PC based CADD; solve problems with the assistance of computer hardware and software. Generate drawings for architectural and mechanical design applications.

Prerequisites: take CADD-112, AEC-130 or AEC-131.

CADD-395 Seminar 1-2 cr.

Title will reflect specific design, research and development content. Current and projected communication methods, concepts, technologies and innovations in design, research and development. **R**

CADD-400 Workshop 1-3 cr.

Special topics in design, research and development, providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. **R**

CADD-436 Computer Assisted Design Problems 2 cr.

Advanced CADD applications. Construct three dimensional wireframe drawings. Perform finite element analysis on select components. Customize software for specific applications. Customize software for specific applications. In-depth analysis of CADD applications in mechanical and architectural design. Instructor's consent required.

CADD-466 3-D Computer Modeling and Rendering 3 cr.

Development of three-dimensional computer models and computer graphic images. Includes 3-D surface modeling and rendering.

Prerequisites: take CADD-112 or CADD-234.

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CAHSS College of Arts, Humanities and Social Sciences

CAHSS-205 Scotland: Society and Globalization (3 cr.)

A wide-ranging course that explores the different aspects of contemporary Scottish society. Locating Scotland in its historical and global contexts, the course focuses on many of the key social, economic, cultural and political issues that face Scotland today. In particular, it considers many of the ways that globalization can be said to be impacting on Scottish economy and society. Multi- and inter-disciplinary approach drawing on sociology, social policy, social history, and human geography. Wisconsin in Scotland exchange program students only.

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CEE Computer/Electrical Engineering

CEE-205 Circuit Analysis and Design (4 cr.)

Kirchhoff's voltage/current laws, node/loop analysis, dependent sources and operational amplifiers. Modeling ideal/real resistors/capacitors/inductors, steady state/transient behavior of RLC circuits. Sinusoids, phasors, impedance, steady state AC analysis, power factor, resonance, and frequency response. Single/three-phase power distribution and transformers. MultiSim, MATLAB, Function generators and oscilloscopes in laboratory. Prerequisites: take MATH-154 and PHYS-282

CEE-215 Electronics (4 cr.)

Introduction to the physics/modeling of semiconductor devices such as diodes and transistors. Biasing, small/large signal circuit behavior, temperature dependence. Differential/multistage/power amplifiers. Time and frequency response of devices and circuits - including operational amplifiers. Discussion of integrated circuit fabrication technology.

Prerequisites: take CEE-205

CEE-225 Digital Logic (3 cr.)

Analysis and design of combinational and sequential logic circuits. Boolean algebra, number systems and logic gates. Realization of Boolean functions. Synchronous and asynchronous logic; counters and registers. Finite state machines, state transitions and state equivalence. Logic circuit simulation. Discrete gates and array logic laboratory experiments.

Prerequisites: take CEE-205

CEE-235 Signals and Systems (3 cr.)

Continuous-time and discrete-time signals and systems; representation and analysis of linear, time-invariant systems; differential and difference equations; convolution; Fourier, Laplace and Z-transforms; Fourier series; Time and frequency-domain analysis; Sampling theorem; Introduction to advanced signal processing topics.

Prerequisites: take CEE-205 and MATH-250

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CHEM Chemistry

CHEM-105 Visualizing Chemistry (2 cr.)

NSCI PHYSC Fall, Spring and Summer

Simple demonstrations that illustrate and reinforce understanding of the physical and chemical properties of matter. Description of the underlying chemistry and chemical safety. \$

CHEM-107 Chemical Science and Technology (2 cr.)

TECH NSCI PHYSC

Developments in chemical sciences and how they provide key materials and principles that are utilized by other sciences, today's technology and culture.

CHEM-115 General Chemistry (5 cr.)

NSCI PHYSC LAB Fall, Spring and Summer

Fundamental principles of chemistry with applications: composition and structure of matter, formation and naming of compounds, mole concept, writing and balancing chemical equations, types of reactions, elementary stoichiometry, bonding, states of matter, equilibrium, solutions, acids and bases. Math proficiency greater than or equal to MATH-110.

CHEM-125 Principles of Chemistry For Health Sciences (5 cr.)

NSCI PHYSC LAB Fall

Principles of chemistry: general, reaction stoichiometry, equilibrium and thermodynamics. Math proficiency greater than or equal to MATH-110.

CHEM-135 College Chemistry I (5 cr.)

NSCI PHYSC LAB Fall and Spring

Principles of inorganic chemistry, properties of important elements and compounds. More rigorous approach and more extensive coverage than in CHEM-115. Normally followed by CHEM-136. Math proficiency greater than or equal to Math-120.

CHEM-136 College Chemistry II (5 cr.)

NSCI PHYSC LAB Fall and Spring

Reactions and properties of common elements and inorganic compounds; oxidation-reduction and solution equilibria; electrochemistry. Lab work in qualitative analysis for common ions.

Prerequisites: take CHEM-135, or MATH-120 and CHEM-125.

CHEM-201 Organic Chemistry I (4 cr.)

Fall and Spring

Chemistry of carbon compounds: naming, bonding, structure, physical characteristics, reactions. Compounds include hydrocarbons, aromatic compounds, alcohols, ethers, aldehydes, ketones, acids, esters, amines, amides, thiols and sulfides. Laboratory exercises on compound characteristics (physical and chemical), compound identification, reactions and reaction types.

Prerequisites: take CHEM-115 with a minimum grade C; or take CHEM-125 with a minimum grade C; or take CHEM-135.

CHEM-204 Organic Chemistry II Lecture (3 cr.)

Spring

Continuation of Organic Chemistry I; organic reactions, organic compound synthesis, reaction to mechanisms and kinetics, transition state theory, thermodynamics; introduction to IR, NMR and UV-visible spectroscopy of organic compounds.

Prerequisite: take CHEM-201.

CHEM-206 Organic Chemistry II Laboratory (1 cr.)

Spring

Systematic identification of organic compounds using chemical, physical, and instrumental methods with option for organic compound synthesis.

Prerequisite: CHEM-201.

Corequisite: CHEM-204.

CHEM-301 Physical Chemistry Lecture (3 cr.)

Fall and Spring

Fundamental physical chemistry; behavior of gases, liquid state, properties of solutions, principles of thermodynamics, thermochemistry. Taken concurrently with CHEM-303.

Prerequisites: take CHEM-115 ; or CHEM-125; or CHEM-135 and MATH-156.

CHEM-303 Physical Chemistry Laboratory (1 cr.)

Lab course to be taken concurrently with CHEM-301. Experimental techniques and apparatus; treatment of experimental data.

Prerequisites: take CHEM-115; or CHEM-125; or CHEM-135 and MATH-156.

CHEM-311 Biochemistry (4 cr.)

Fall and Spring

Fundamental chemistry and metabolism of carbohydrates, lipids and proteins; second- and third-order structure of proteins; chemistry of nucleic acids; nature and dynamics of enzymes and enzyme action; biological oxidations; lab work in metabolism, chromatography, enzyme action, qualitative and quantitative analytical procedures.

Prerequisites: take CHEM-201.

CHEM-315 Food Chemistry (3 cr.)

Spring

Organic biochemistry of foods: enzymatic and non-enzymatic changes associated with food preparation and storage (Maillard-Browning reaction), denaturation of protein, changes in color, odor, texture and nutritive value. Techniques for isolation and identification of biochemical constituents of foods.

Prerequisites: take CHEM-115, CHEM-125 or CHEM-135, and CHEM-201.

CHEM-325 Chemistry of Polymers (4 cr.)

Fall

Basic science of polymers. Common industrial polymers and their applications.

Relationship of the structure and salient structural features of industrial polymers with their properties and applications.

Prerequisite: take CHEM-135.

CHEM-331 Quantitative Analysis (3 cr.)

Fall

Introduction to the principles of quantitative chemical analysis and training in precision laboratory techniques.

Prerequisites: take CHEM-136.

CHEM-335 Instrumental Methods of Analysis (3 cr.)

Spring

Application of instrumental methods to chemical analysis: electrochemical, spectrophotometric, chromatographic, and thermal analysis. Techniques for methods development, sample preparation, optimization of operating conditions, and data analysis needed to obtain accurate, reproducible results by means of instrumentation.

Prerequisites: take CHEM-331.

CHEM-341 Chemistry of Materials (4 cr.)

Fall and Spring

Relationship of the chemistry and microstructure of structural materials (metals, polymers and ceramics) to their properties; degradation of those materials, corrosion of metals, polymers and ceramics.

Prerequisites: take CHEM-115, CHEM-125 or CHEM-135.

CHEM-353 Environmental Chemistry (3 cr.)

Fall and Spring

Principles and origins of chemical reactions that lead to ecological imbalance; systems that have contributed to large-scale environmental pollution or are of current importance; chemical technology needed to correct imbalance. Prerequisites: take CHEM-115, CHEM-125 or CHEM-135.

CHEM-412 Advanced Biochemistry (3 cr.)

Fall and Spring

Structure and function of enzymes and membrane-bound proteins, enzyme kinetics and mechanism, and regulatory mechanisms of metabolism at the molecular, cellular, and organismal levels.

Prerequisites: take CHEM-311.

CHEM-440 Advanced Materials Laboratory (1-3 cr.)

Fall and Spring

Student-devised laboratory experiments to solve a materials problem provided by the instructor. Instructor's consent required.

Prerequisites: take CHEM-115, CHEM-125 or CHEM-135. **R**

CHEM-452 Environmental Regulations Management (3 cr.)

Fall, Spring and Summer

Laws governing environmental issues. Environmental regulations, applicability of the laws, and resources for interpreting the regulations. Evaluation of environmental research.

Prerequisites: take CHEM-115 or CHEM-125 or CHEM-135.

CHEM-470 Chemistry of Materials II (3 cr.)

Fall and Spring

Advanced principles of materials: diffusion, phase transformations, corrosion kinetics and failure analysis.

Prerequisites: take CHEM-301, CHEM-341, and MATH-250 or MATH-255.

CHEM-489 Advanced Chemistry Experience (1-4 cr.)

Fall, Spring and Summer

Research experiences leading to a greater depth of understanding of chemical principles.
Sophomore or higher standing and consent of instructor required.

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Revised: April 2009

CSTEM College of Science, Technology, Engineering and Mathematics

CSTEM-101 Digital Electronics 3 cr.

Exploration of applied logic associated with electronic circuits and devices. Includes basic electrical principles in series and parallel circuits. Introduces fundamental logic gates and simplification techniques. Employs a case scenario based approach that includes creating and testing solutions using software and breadboard supplies. Intended for articulation with the Project Lead the Way course by the same name.

CSTEM-102 Introduction to Engineering Design 3 cr.

Exploration of the design development process. Employs a product solutions based approach that includes creating, analyzing and communicating solutions using solid modeling software. These activities and hands-on projects integrate math, science, and technology from an engineering perspective. Intended for articulation with the Project Lead the Way course by the same name.

CSTEM-103 Principles of Engineering 3 cr.

Exploration of careers in engineering and technology; introduction to technology systems and manufacturing processes. Employs activities and hands-on projects that integrate math, science and technology from an engineering problem-solving perspective. Intended for articulation with the Project Lead the Way course by the same name.

CSTEM-104 Introduction to Computer Integrated Manufacturing 3 cr.

Applies principles of robotics and automation systems. Using CAD design, the course builds on computer solid modeling skills developed in Introduction to Engineering Design. Use of CNC equipment to produce scale models of three-dimensional CAD designs. Fundamental concepts of robotics used in automated manufacturing and design analysis are examined.

CSTEM-125 Gender and Science, Technology, Engineering and Mathematics 3 cr. GLP

Issues surrounding women and men in STEM fields; representation of women in these fields, and reasons for under-representation; global, ethnic and historical perspectives.

CSTEM-300 Introduction to Futures Study 2 cr.

Fall Semester

Methods of future projection, orienting thought toward future alternatives; impact of future problems on major areas of human activity.

CSTEM-390 Technical Service Schools .5-6 cr.

Summer Session

Some special-purpose technical courses offered by manufacturers are suitable for college credit. Guidelines: 1. Student makes all arrangements with manufacturer offering courses; 2. One credit is awarded for each full week (40 hours) of attendance; 3. Student enrolls and pays fees prior to taking course; 4. Approval of dean of College of STEM needed

before enrolling for credit; 5. Graduate School approval required for students taking course for graduate credit.

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Revised: July 2009

CNS Cognitive Neuroscience

CNS-200 Introduction To Cognitive Neuroscience (3 cr.)

SBSCI NSCI PSYC LFSC

Fall, Spring and Summer

Cognitive and neural processes that support higher mental functions and methods by which inferences about the brain bases of cognition are made.

CNS-201 Introduction To Cognitive Neuroscience Lab (1 cr.)

NSCI LFSC LAB

Fall, Spring and Summer

Cognitive neuroscience experimental techniques including behavioral and electrophysiological methods of research. Measurement, analysis and presentation of laboratory data on cognitive neuroscience, such as neuronal properties, sensation, memory, perception, learning and attention.

Prerequisites or Corequisite: CNS-200.

CNS-401 Special Topics in Cognitive Neuroscience (1-4 cr.)

Topics in cognitive neuroscience of current or historical importance.

Prerequisites: take CNS-201.

CNS-480 Cognitive Neuroscience Research Experience (1 cr.)

Design, execution, analysis, and reporting of faculty-supervised, cognitive neuroscience-related research.

Prerequisite: take CNS-200, CNS-201, PSYC-391, and STAT-130 or higher.

CNS-481 Mathematics and the Brain (4 cr.)

Basic principles of computational cognitive neuroscience. Simulating cognition using biologically based networks of neuron-like units (neural networks).

Prerequisites: take MATH-120, STAT-130, CNS-200, and CNS-201.

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Reviewed: February 2010

COUN Counseling

COUN-400 Workshop in Counseling 1-3 cr.

Current specialized topics studied through experiential activities.

Equivalent to 439-600. **R**

COUN-405 Introduction To Basic Counseling Skills 3 cr.

Fall and Spring Semesters

Develop basic helping skills including active listening; problem solving, goal setting, and decision-making; conflict resolution; information giving; assertion skills; and making referrals. Applicable when basic counseling is an appropriate helping response and also in any interpersonal relationship, including people with disability and ethnic diversity issues. Equivalent to COUN-405, 439-405, 413-405.

COUN-406 Peer Supervisory Experience 1 cr.

Fall and Spring Semesters

Experience in observation and feedback to peers undergoing counseling skill training. Instructor's consent required. **R**

COUN-447 Assessment and Treatment of Eating Disorders 2 cr.

Description and diagnostic criteria for anorexia nervosa, bulimia nervosa, obesity, and compulsive overeating. Psychological, sociological, and familial influences on the development of the disorders. Assessment instruments, approaches, and treatment considerations.

COUN-494 Counseling Older Persons 2-3 cr.

Spring Semesters

Training service providers in counseling skills and gerontology through discussion, observation and supervised counseling experiences. Equivalent to 439-694, 413-694.

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Revised: January 2007

CS Computer Science

CS-141 Computer Programming – Basic (2 cr.)

ANRSN/MATH

Beginning computer programming using BASIC: input, output, flow of control, arrays, files, and subprograms.

CS-142 Computer Programming For Multimedia 1 (3 cr.)

Programming and scripting for multimedia authoring including text, graphics, sound, video, animation, graphical user interfaces, and user interaction. Scripting techniques including lists, functions, and even handlers. Multimedia packaging for CD and Web distribution.

CS-143 Computer Programming For Multimedia 2 (3 cr.)

Multimedia authoring techniques including behavior scripts, internet data access, dynamic sprite operations, and object-oriented scripting. Multimedia web techniques including design principles, site management, text, images, links, frames, sound, video, and cascading style sheets. Scripting techniques such as JavaScript, behaviors, forms, input validation, and applications.

Prerequisites: take CS-142.

CS-144 Computer Science I (3 cr.)

ANRSN/MATH

Fall and Spring

Problem-solving and algorithm development using a high-level programming language. Computer organization, programming language and programming, elements of programming style, documentation, introduction to structured programming.

CS-145 Computer Science II (3 cr.)

Fall and Spring

Problem-solving and algorithm development using a high-level language. Structured programming concepts, debugging and testing, string processing, searching and sorting, elementary data structures, recursion and files.

Prerequisites: take CS-144.

CS-244 Data Structures (4 cr.)

Fall

Concepts and foundations of data structures and algorithms. Introduction to analysis of algorithms and linear structures, vectors, linked lists, stacks, queues and priority queues. Non-linear data structures such as trees, tree traversals, binary trees, binary search trees and graphs. Advanced sorting and searching techniques. Hashing, heaps.

Prerequisites: take CS-145.

CS-245 Introduction to Computer Organization (3 cr.)

Spring

Basic concepts in computer systems including computer structure, machine language,

assembly languages, addressing techniques, macros, file I/O, program segmentation and linkage.

Prerequisites: take CS-145.

CS-248 Web and Internet Programming (3 cr.)

Fall and Spring

Design and implementation of web and internet software systems using current programming languages, scripting languages, and interface standards. Network programming and client/server applications. Support for database access via web programs.

Prerequisites: take CS-144.

CS-342 Survey of Programming Languages (3 cr.)

Spring

Programming languages and language design. Comparative study of three modern high level languages and their application strengths for systems programming, embedded computer systems and artificial intelligence.

Prerequisites: take CS-244 and CS-245.

CS-343 Mathematical Foundations of Computer Graphics (3 cr.)

Fall

Fundamental hardware, software, mathematics, data structures and algorithms for computer graphics.

Prerequisites: take CS-244, CS-245, MATH-158, MATH-275.

CS-345 Image Processing (3 cr.)

Theory and applications of digital image processing. Mathematical foundations and algorithms for enhancement, restoration, compression, segmentation and reconstruction from projections.

Prerequisites: take MATH-255, MATH-275, CS-244, STAT-332.

CS-346 Simulation Modeling and Analysis (3 cr.)

Simulation as a problem-solving technique; models, analysis and languages for simulation; data collection; random variate generation; verification and validation; output analysis; optimization of systems.

Prerequisites: take CS-244, STAT-332.

CS-441 Computer Organization (3 cr.)

Fall

Hierarchical organization of a computer system: CPU, memory, I/O modules. Detailed analysis of the CPU and control unit implementation.

Prerequisites: take CS-244, CS-245.

CS-442 Systems Programming (3 cr.)

Spring

Design, organization and case studies of major systems software: assemblers, loaders, linkers, macro processors, compilers, and operating systems. Relationship between machine architecture and system software.

Prerequisites: take CS-441.

CS-443 Database Systems Manipulation and Design (3 cr.)

Spring

Conceptual and logical organization of data, data models, data manipulation and data definition languages, and design of databases. Distributed database systems; integrity, constraints, concurrency, security, and query optimization.

Prerequisites: take CS-244.

CS-448 Software Engineering (3 cr.)

Fall

Software development lifecycle, programming languages and environments, program testing, documentation, software management and organization. Class software development project.

Prerequisites: take CS-244.

CS-458 Advanced Software Engineering (3 cr.)

Spring

Semester-long software engineering project based on an applied real life problem.

Advanced models of modern software development process. An in-depth exposure to the latest technologies and trends in software engineering: architecture, process, framework, methodologies, and tools. Software metrics, quality, management, reliability, testing, integration, verification, validation, deployment, and maintenance.

Prerequisites: take CS-448.

CS-480 Introduction to Computer Security (3 cr.)

Spring

Computer security problems and challenges, relationships between policy and security, cryptography, implementation of requirements imposed by policies, use of standards to ensure that the system will meet its goal, system vulnerabilities analysis and detection, intrusion detection, application of desired policy and procedures to support the policy.

Prerequisites: take CS-245.

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Revised: April 2010

CTE Career and Technical Education

CTE-301 Preservice Workshop for Career and Technical Educators 1 cr.

Introduction to the basic concepts of teaching courses in Wisconsin career and technical education.

CTE-302 Principles of Career and Technical Education 2 cr.

Fall, Spring and Summer

Philosophy, organization and administration of career and technical education, nationwide, in Wisconsin and on the local level.

CTE-310 Foundations of Health Sciences Occupations Education 3 cr.

The philosophy, organization and administration of health science occupations education at the national, state and local level; includes current topics in health science occupations education with application for personnel in the field.

CTE-320 Careers in Health Care 3 cr.

Investigation of health care delivery system, services, occupations, and related health services, and the health sciences career clusters. Bachelor's Degree Required.

CTE-330 Curriculum Planning in Health Science Occupations 3 cr.

Competency-based and individualized approaches to principles of curriculum and course construction, study of curriculum terminology, methods of selecting and organizing content for health science occupations educators.

Prerequisites: take CTE-310 and CTE-320.

CTE-334 Performance Analysis (3 cr.)

Fall and Spring

Analysis techniques utilized in curriculum development. Emphasis on task analysis and related procedures. Includes occupational and needs analysis, competency identification, objective writing and information mapping. Integrates task analysis with a total system for developing and revising career and technical education curriculum or job training programs.

CTE-337 Competency-Based Education: Career and Technical (2 cr.)

Fall and Spring

Competencies for career, technical and adult education programs and courses. Development of competency-based education performance indicators in all domains, a competency-based education management system, and basis for competency-based education evaluation.

CTE-346 Seminar (1-3 cr.)

Fall, Spring and Summer

Current topics in career, technical and adult education with application for personnel in the

field. Instructor's consent required.

CTE-359 Technology Impacts Occupational Programs (4 cr.)

Summer

Presentation of latest technology in communications, manufacturing, construction, and/or transportation which involve concepts from math, science and computer science. **R**

CTE-360 Cooperative Occupational Education Programs (2 cr.)

Spring and Summer

Philosophy, organization, coordination and teaching techniques or cooperative education programs in the various career and technical areas. Roles, responsibilities and duties of the cooperative teacher coordinator.

CTE-375 Workshop (1-3 cr.)

Fall, Spring and Summer

Special topics providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. **R**

CTE-405 Methods of Teaching Career and Technical Education (2 cr.)

Fall and Spring

Competency-based and individualized approach to methods of teaching career and technical education.

CTE-408 Student Teaching in Career and Technical Education (4-8 cr.)

Fall, Spring and Summer

Directed teaching and community experiences at off-campus, postsecondary institutions. Consent of Program Director.

CTE-438 Course Construction for Career and Technical Educators (2 cr.)

Fall and Spring

Competency-based and individualized approach to principles of course construction for career and technical educators.

CTE-440 Instructional Evaluation in Career and Technical Education (2 cr.)

Fall and Spring

Competency-based and individualized approach to instructional evaluation for career and technical educators.

CTE-474 Adult Education (2 cr.)

Winter

Philosophy and history of adult education in the United States. Techniques for teaching adults: psychological factors, methods, adult interests and characteristics.

CTE-488 Career and Technical Education Internship (1-8 cr.)

Fall, Spring and Summer

Consent of Program Director.

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Revised: August 2008

DES Design

DES-150 Introduction to Sustainable Design and Development (2 cr.)

TECH GLP Fall and Spring

Examination of theory and practice of sustainable development and the influential role of design.

DES-200 Design Theory and Methods (3 cr.)

Fall and Spring

A study and application of various techniques and theories of design to fundamental design problems. Prerequisites: take ART-101 and ART-103.

DES-205 Presentation Techniques (3 cr.)

Fall and Spring

Experience in the various techniques of visually developing and presenting a design.

Prerequisites: take ART-100.

DES-210 Letter Form Design (3 cr.)

Fall

Design of letterforms, figures, and visual symbols; history and development of type; calligraphy; page composition for various formats and audiences. Prerequisites: take ART-100 and ART-101.

DES-220 Computer Imagery (3 cr.)

Fall, Spring and Summer

Creative use of digital technology: the design of 2D images and illustrations in both hard copy and digital formats, using bitmap, vector, layout programs, and HTML editors.

Corequisite courses: ART-101.

DES-231 Industrial Design Methodology, Analysis and Visualization (3 cr.)

Fall and Spring

An overview of design skills and their application to the resolution of product design problems in Industrial Design. Prerequisites: take DES-200 DES-205. Corequisite courses: DES-232.

DES-232 Human Body and Form (3 cr.)

Fall and Spring

Utilize existing human factors research methods, anthropometrics, application of data, task assessment and critical fit issues in relationship to the body as well as conduct original research while practicing industrial design.

Prerequisites: take DES-200 DES-205.

DES-256 Art Workshop(1-3 cr.)

Fall, Spring and Summer

Selected art concepts, processes and media will vary to serve special student populations.

Credit determined by individual contract. **R**

DES-303 Interior Design Studio 1 (3 cr.)

Fall and Spring

Experiential study of the fundamental principles and elements of interior design and their application to a range of residential design projects. Projects emphasize residential space planning based on functional requirements, application of the various elements of design, and design communication methods.

Prerequisites: take ART-103 or BURTL-229; take DES-205, AEC-131, and AEC-233.

DES-304 Interior Design II (3 cr.)

Fall and Spring

Design problems for interior spaces with emphasis on concepts, human interaction, and materials. Prerequisites: take RD-205 or DES-303.

DES-308 Lighting Design in the Built Environment(3 cr.)

Fall

Exploration of lighting design as it affects aesthetic, color, and environmental perceptions. Ecological, practical, and qualitative aspects of lighting design.

Prerequisites: take DES-303. \$

DES-310 Graphic Design I (3 cr.)

Fall and Spring

Study and creation of visual images used to inform and/or persuade specific audiences.

Prerequisites: take ART-101 and DES-210 or DES-330.

DES-314 Interior Specifications I (3 cr.)

Fall

An introduction to interior design methods, materials, procedures and specifications.

DES-320 Interior Furniture Design (3 cr.)

Fall and Spring

Applied studio projects with structural, material, economic and aesthetic considerations in the design of contemporary furniture.

Prerequisites: take DES-303 or DES-340.

DES-325 Multimedia Web Design (3 cr.)

Fall, Spring and Summer

Introductory exploration of the web design process for artists and designers, including creative methodologies, development, and implementation of interactive multimedia for the internet.

Prerequisites: take ART-100, ART-101, and DES-220.

DES-330 Industrial Design I (3 cr.)

Fall and Spring

First course in the industrial design sequence providing an overview of design skills in their application to the resolution of product design problems.

Prerequisites: take DES-200, DES-205, or RD-205.

DES-331 Human Interface and Interaction (3 cr.)

Fall

Developing physical and digital interfaces in product design through exploration of user-centered methods of research.

Prerequisites: take DES-232 and MFGT-110.

DES-332 Art and Science of Production (3 cr.)

Fall and Spring

The investigation and redefinition of material and production paradigms and how they impact the user's perception of the meaning and function of the object.

Prerequisites: take DES-231 and DES-232.

DES-333 Professional Practice in Industrial Design(1 cr.)

Fall and Spring

Overview of the role of the professional industrial designer.

Prerequisites: take DES-231 and DES-232. **R**

DES-340 Industrial Design II (3 cr.)

Fall and Spring

Increased understanding of design as applied to the resolution of complex product design.

Prerequisites: take DES-330.

DES-345 Product Form Design (3 cr.)

Fall, Spring and Summer

Exploration of product forms through drawing and model-building techniques.

Prerequisites: take DES-200, DES-205, DES-330, and MFGT-103.

DES-360 Graphic Design II (3 cr.)

Fall and Spring

Application of social, business and ethical factors affecting visual communication, while increasing sensitivity and experience in graphic design.

Prerequisites: take DES-310 and DES-220.

DES-370 Interface Design (3 cr.)

Fall, Spring and Summer

Design of digital interfaces using visual aesthetics and end-user research methodologies to communicate information and enhance user experience in a variety of digital output forms.

Prerequisites: take CS-143, DES-325, and DES-360.

DES-372 3D Modeling and Animation I (3 cr.)

Fall and Spring

Basic 3D modeling, rendering, and animation techniques using virtual objects and visual aesthetics to define form and motion.

Prerequisites: take ART-103, ART-200 and DES-376.

DES-373 Digital Characters (3 cr.)

Fall and Spring

Study of 3D modeling and animation of digital characters and "artificial" life forms.

Prerequisites: take DES-372 and ART-301.

DES-374 3D Modeling and Animation II (3 cr.)

Fall and Spring

Intermediate to advanced level 3D modeling, rendering, and animation techniques using virtual objects and visual aesthetics to define form and motion.

Prerequisites: take DES-372. **R**

DES-376 Digital Narrative One: Animation and Video for Multimedia (3 cr.)

Fall and Spring

An introduction to the conception, design and creative implementation of animation and digital video for developing time-based narratives utilizing digital multimedia tools.

Prerequisites: take DES-220, DES-310, and MEDIA-430.

DES-377 Interactive Digital Content Design (3 cr.)

Fall and Spring

Exploration of emerging forms of interactive digital content through advanced multimedia design topic(s).

Prerequisites: take DES-370.

DES-380 Signage and Exhibition Design (3 cr.)

Summer

Organization and design of environmental graphics through the production of signage, display, and exhibition support systems.

Prerequisites: take DES-205 and DES-360.

DES-381 Advanced Computer Animation (3 cr.)

Fall and Spring

Advanced 3D modeling, rendering and animation techniques where student develop personal aesthetics and character forms.

Prerequisites: take DES-372.

DES-382 Information Design (3 cr.)

Fall and Spring

Envisioning information through the design and production of charts, diagrams, maps, and other hierarchical graphics.

Prerequisites: take DES-360.

DES-384 Advertising Design (3 cr.)

Fall and Spring

Graphic design principles and creative concepts as applied to advertising art.

Prerequisites: take DES-205 and DES-360.

DES-385 Interactive Design (3 cr.)

Fall and Spring

Advanced design of digital interfaces and interactive systems focusing on visual aesthetics in a variety of output forms with various electronic devices.

Prerequisites: take DES-370.

DES-386 Publication Design (3 cr.)

Fall and Spring

Graphic design principles as applied to the combination and coordination of art and typography with text.

Prerequisites: take DES-360.

DES-388 Typographic Design (3 cr.)

Fall and Spring

Design of grid-based, hierarchical and expressive typographic structures; analysis of historical and theoretical precedents.

Prerequisites: take DES-360.

DES-389 Typography in Motion (3 cr.)

Fall and Spring

Introduction into dynamic, time based typography covering technology and skills involved in creating kinetic and emotive typography with various media.

Prerequisites: take DES-325 and DES-360.

DES-405 Advanced Presentation Techniques for Designers (3 cr.)

Fall and Spring

Techniques and skills for presentation and communication of visual materials; advanced perspective, mixed-media rendering, transparent watercolor rendering, gouache rendering applied to presentation of product's interiors and exteriors.

Prerequisites: take DES-205.

DES-410 Product and Packaging Graphics (3 cr.)

Design and application of graphics to products, packages, and related display systems.

Prerequisites: take DES-360.

DES-414 Interior Specifications II (3 cr.)

Spring and Summer

Advanced interior design specification and construction documentation, incorporating elements of current professional practice.

Prerequisites: take DES-314.

DES-415 Interior Design Studio 3 (3 cr.)

Advanced experiential study of the principles and elements of interior design and their application to a range of commercial design projects. Studio design projects emphasize conceptual development, space planning, building code and accessibility compliance.

Prerequisites: take DES-304.

DES-416 Interior Design Senior Studio (4 cr.)

Advanced interior design topics, with extensive projects, including all phases of current interior design professional practice and incorporation into student portfolio.

Prerequisites: take DES-308 and DES-414.

DES-430 Industrial Design III (4 cr.)

Fall and Spring

Advanced design problems chosen by consultation between student and instructor.

Prerequisites: take DES-345 and DES-340.

DES-431 System, Environment and Context (3 cr.)

Fall

Advanced industrial design problems researching system design with consideration of contextual and environmental issues.

Prerequisites: take DES-331.

DES-432 Theory, Society and Application (3 cr.)

Fall and Spring

Advanced design problems applying the theory of design to societal issues.

Prerequisites: take DES-331 and DES-332.

DES-440 Industrial Design IV (4 cr.)

Fall and Spring

Professional level of understanding and skill applied to advanced design problem chosen in consultation between student and instructor.

Prerequisites: take DES-430.

DES-451 Interior Design Practicum (3 cr.)

Fall and Spring

Work experience with an interior designer or in design-related field arranged with interior design work experience coordinator.

Prerequisites: take DES-303.

DES-456 Advanced Art Workshop (1-3 cr.)

Selected art concepts, processes and media will vary to serve special student populations. For students familiar with workshop approach or advanced in art program. Credit determined by individual contract. **R**

DES-480 Senior Project -- Graphic Design (4 cr.)

Exploration of an advanced graphic design topic through an extensive project: research, production specification, and development of a presentation system. Instructor's consent required. Prerequisites: take either DES-360 and DES-380 or take DES-360 and DES-410.

DES-490 Senior Project Multimedia Design (4 cr.)

Fall and Spring

Approved advanced Multimedia topic(s) explored through the completion of professional level project(s), from concept to published digital media. Multimedia Design students only.

Prerequisites: take DES-370 and MEDIA-430 and take DES-384 or DES-385.

DES-497 Field Experience (1-2 cr.)

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The Undergraduate Bulletin

Revised: March 2009

ECE Early Childhood Education

ECE-100 Introduction to Early Childhood Programs (1 cr.)

Fall and Spring

History of early childhood programs for children through age 8, developmentally appropriate practice, current issues, professionalism, employability skills and attitudes, career exploration. Early Childhood majors only.

ECE-303 Developmentally Appropriate Practice: Infants and Toddlers (3 cr.)

Fall

Developmentally appropriate practices for teaching with infants and toddlers in group settings. Contrast of appropriate and inappropriate practices. Emphasis on play, creativity, health

and safety, integrated curriculum, appropriate teaching strategies, assessment, program models, and writing lesson plans for infants and toddlers. Observations required.

Prerequisites: take HDFS-124.

ECE-307 Developmentally Appropriate Practice: Preschool (4 cr.)

Fall and Spring

Developmentally appropriate teaching practices with preschool children in group settings. Play, creativity, health and safety, integrated curriculum, teaching strategies, assessment, program models and lesson plans. Observations and practicum required. Education

Majors: Benchmark I completed.

Prerequisites: take HDFS-124.

ECE-309 Developmentally Appropriate Practice: Kindergarten -- Primary (2 cr.)

Fall and Spring

Developmentally appropriate teaching practices in kindergarten through grade 3 in group settings. Play, creativity, health and safety, integrated curriculum, teaching strategies, assessment, program models and lesson plans. Observations required. Education Majors:

Benchmark I completed. Prerequisites: take HDFS-124.

ECE-364 Observing and Guiding Children: Early Childhood Classrooms (3 cr.)

Fall and Spring

Essential elements in guiding children in early childhood classrooms. Positive guidance strategies, introduction to early childhood classroom management, effects of guidance on children's social and emotional development, developing an eclectic approach. Power, process, ethics, methods of observing, documenting children's behavior, progress, development. Observation and participation in early childhood classrooms required.

Minimum cumulative grade point average 2.75. Education majors must have passed PPST.

Prerequisites: take PSYC-110, HDFS-124, and ECE-303.

ECE-410 Early Childhood Curriculum: Science (3 cr.)

Fall and Spring

Methods and materials for assessing, planning, implementing and evaluating science curricula for early childhood (birth-grade 3). Emphasis on science process skills while

fostering foundational knowledge in all science areas. Education Majors: Benchmark I completed.

Prerequisites: take ECE-303 and ECE-307 and ECE-309.

ECE-411 Early Childhood Curriculum: Mathematics (3 cr.)

Fall and Spring

Mathematics curriculum planning for early childhood (birth through 3rd grade), including selection, organization, presentation, and evaluation of appropriate curricula. Education Majors: Benchmark I completed.

Prerequisites: take ECE-303 and ECE-307.

ECE-412 Early Childhood Curriculum: Social Studies (3 cr.)

Fall and Spring

Methods and materials for assessing, planning, implementing and evaluating social studies curriculum for early childhood (birth-3rd grade). Education Majors: Benchmark I completed.

Prerequisites: take ECE-303 and ECE-307 and ECE-309.

ECE-413 Language Arts and Emergent Reading I: Birth-Kindergarten (3 cr.)

Fall, Spring and Summer

Developmentally appropriate strategies and materials for planning, implementing, and evaluating language arts. Emphasis on developing emergent literacy skills and language arts with children Birth through Kindergarten. Education Majors: Benchmark I completed.

Prerequisites: take ECE-303.

ECE-414 Early Childhood Clinical Experience: Integrated Curriculum (2 cr.)

Fall and Spring

Development of competencies in planning, teaching, and evaluating the integrated curriculum for the early childhood period. Participation in an early childhood setting required. Education Majors: Benchmark I completed.

ECE-421 Administration of Early Childhood Programs (2 cr.)

Fall

A study of program organization, program design, staffing, licensing, certification, equipment and facilities for operating early childhood education programs. Field trips required.

ECE-426 Advanced Classroom Management and Guidance (3 cr.)

Fall and Spring

Advanced study of managing early childhood classrooms. Management of the physical environment, instructional context, including large and small groups, and social context. Building a classroom community and encouraging collaborative learning. Assessing management of early childhood classrooms. Analysis of classroom management programs. Observation/participation in early childhood classrooms required.

Prerequisites: take ECE-364.

ECE-427 Child Abuse and Neglect (2 cr.)

Fall

Systemic nature, forms and indicators, and prevention of abuse/neglect. Factors contributing to, and intervention skills in, coping with the effects of abuse/neglect on children and families at risk.

ECE-433 Language Arts/Reading -- Early Childhood Education (3 cr.)

Fall and Spring

Current philosophies, methodology and materials for teaching reading: readiness activities and beginning reading in early childhood.

ECE-435 Children, Families, Schools and Communities (3 cr.)

Fall, Spring and Summer

Building family, school, and community partnerships to support children's well being and educational success. Theories and processes used to establish positive home-school-community relations.

ECE-464 Special Topics in Early Childhood Curriculum(1-3 cr.)

Philosophy and methodology of early childhood education: problems confronting teachers.
R

ECE-480 Student Teaching: Infant, Toddler, Preschool (4-8 cr.)

Fall and Spring

Full-day student teaching in a school setting for one quarter, based on the university calendar, with infants, toddlers, or preschoolers. Includes parent interaction and seminar sessions. Professional program admission required.

ECE-480A Student Teaching in Preschool Programs (4 cr.)

Fall and Spring

Directed teaching and community experience in selected early childhood centers.

ECE-480B Student Teaching in Kindergarten (4 cr.)

Fall and Spring

Directed teaching and community experience in selected kindergartens.

ECE-488 Intern Teaching (8-16 cr.)

An alternate method of obtaining student teaching experience. Teacher interns receive license to teach and salaried appointments in cooperating school systems for one full semester.

ECE-492 Student Teaching in Prekindergarten (8 cr.)

Fall, Spring and Summer

Full-day student teaching experience at the prekindergarten level in a preschool setting, together with a weekly one-hour student teaching seminar session. The student teaching experience follows the calendar of the preschool. Not available to students who have taken ECE-480A and/or 212-490. Early Childhood majors only. School of Education permission required.

Prerequisites: take HDFS-335 and HDFS-344 and ECE-433.

ECE-493 Student Teaching: Kindergarten (4-8 cr.)

Fall and Spring

Full-day student teaching in a school setting for one quarter based on the host school's calendar with kindergarten age children. Includes parent interaction and seminar sessions. Professional program admission required.

ECE-494 Student Teaching: Primary (4-8 cr.)

Fall and Spring

Full-day student teaching in a school setting for one quarter based on the host school's calendar in grade 1, 2 or 3. Includes parent interaction and seminar sessions. Professional program admission required.

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The Undergraduate Bulletin
Updated: February 2007

ECON Economics

ECON-201 General Economics 3 cr.

SBSCI ECON Fall and Spring Semesters

Introduction to basic elements of economics; analysis of institutions, issues and policy; theories of price, national income and employment. Not open to students taking ECON-210 and ECON-215.

ECON-210 Principles of Economics I 3 cr.

SBSCI ECON Fall, Spring and Summer

Tools of basic economic analysis including scarcity, cost, and demand and supply; macroeconomic issues such as economic growth, inflation, and unemployment; alternative macroeconomic theories; and fiscal and monetary policies.

ECON-215 Principles of Economics II 3 cr.

SBSCI ECON Fall, Spring and Summer

Theory of individual economic behavior; price determination; market structures; labor, capital and natural resource markets; international economics; and current microeconomic topics.

P: ECON-210.

ECON-335 Personal Investing 3 cr.

Terminology, evaluation, selection and risk analysis of all types of investment vehicles: stocks, bonds, mutual funds, and enhanced traded funds. P: ECON-201 or ECON-210.

ECON-350 Environmental and Natural Resources Economics 3 cr.

Principles underlying use of natural resources including demand and supply; efficiency; cost effectiveness and benefit-cost analysis; sustainability; optimal pricing; and management of renewable and non-renewable resources. Principles are applied to the examination of pollution control, preservation vs. development, recycling, and other environmental and natural resources issues and policies.

P: Take ECON-201 or ECON-210

ECON-380 Economic and Business Forecasting 3 cr.

Quantitative methods used in economics and business forecasting. Topics covered include: descriptive statistics, hypothesis testing, correlation, regression analysis and forecasting. Real business applications of these techniques are emphasized.

P: Take ECON-201 or ECON-215, and take ECON-325 or STAT-130 or STAT-320.

ECON-410 Microeconomics 3 cr.

Fall and Spring Semesters

Value and distribution theory; analysis of demand-firm, industry and utility; pricing of production factors.

P: ECON-215.

ECON-415 Macroeconomics 3 cr.

Fall and Spring Semesters

Determination of aggregate income, employment, growth rates and price levels; monetary and fiscal policies necessary for full employment.

P: ECON-215.

ECON-420 Labor Economics 3 cr.

Fall, Spring and Summer

Basic labor theory; history of organized labor in western industrial societies; collective bargaining as viewed by labor, management, government and public; institutions involved in modern labor relations.

P: ECON-201 or ECON-210.

ECON-421 Collective Bargaining and Labor Relations Relations 2 cr.

Fall, Spring and Summer

Introduction to collective bargaining in the U.S.; formation, substance and administration of a labor agreement, current labor law, role of National Labor Relations Board.

P: ECON-201 or ECON-210.

ECON-425 Economic Development 3 cr.

GLP

Analysis of the economies of less developed countries in an institutional and international framework to understand the social and economic realities of people living in these regions. Evaluation of economic policies and their impact on development.

P: ECON-215

ECON-435 Money, Banking, Financial Markets 3 cr.

Fall and Spring Semesters

Money and bank credit, modern monetary theories, monetary policy.

P: ECON-201 or ECON-210.

ECON-445 Public Finance 3 cr.

Spring Semester

Public finance at all governmental levels; taxation, expenditures, debt management and fiscal policy.

P: ECON-201 or ECON-210.

ECON-480 International Economics 3 cr.

Fall and Spring Semesters

Survey of current issues such as changing world financial situations, international agreements and organizations, and other topics related to trade models, tariffs, exchange rates and balance of payments.

P: ECON-210.

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Revised: July 2007

EDUC Education

EDUC-010 Praxis I: Pre-Professional Skills Test Writing Preparation 1 cr.

Designed to prepare education students for the PPST: Writing Test. Structured writing format and learning strategies to develop an organized and authoritative approach to professional writing.

EDUC-170 Video Games and Simulations in Educational Environments 2 cr.

Philosophical, theoretical, design and implementation issues relative to incorporating games and simulations within educational and training environments. Emphasis will be placed on education environments.

EDUC-210 Impacts of Technology on Learning 2 cr.

TECH

Fall, Spring and Summer

The impacts of technology on the education of the individual and society; the role technology plays in both the informal and formal education of individuals; contemporary developments and issues related to the use of technology in the learning process.

EDUC-303 Educational Psychology 3 cr.

Introduction to the psychological aspects of the educative processes. Emphasis on application of basic psychological principles to teaching. Focus on learner, learning process, and the teacher as an agent for change. Benchmark I completed. Prerequisites: take PSYC-110.

EDUC-304 Secondary Curriculum Methods and Assessment 2 cr.

Discipline-specific curriculum, methods, and assessment procedures for teaching content minors. Benchmark I completed.

EDUC-305 Teaching Practicum 2-16 cr.

Fall, Spring and Summer

Directed teaching in school setting in subject area consistent with teaching minor or add-on certification. Completion of teacher work sample or portfolio. Benchmark II completed.

EDUC-307 Applied Human Relations 2 cr.

ESC

Fall, Spring and Summer

An experiential course focusing on major themes affecting human relations.

EDUC-310 Field Experience – Tutoring 1 cr.

Supervised one-on-one or small group teaching experience in a school or other educational setting in response to the special needs of students with learning difficulties. Emphasis is on precision teaching, individualized instruction, and alternative strategies. Benchmark I completed.

EDUC-312 Introduction to Curriculum, Methods, and Assessment 2 cr.

Fall and Spring

Principles and practices of curriculum development, instructional methods, and measures

of assessment of learning; including issues of and approaches to curriculum and curriculum development; methods of effective teaching; purposes, methods, and measures of assessment. Minimum Cum GPA 2.75. Educ Mj must have passed PPST.

EDUC-326 Foundations of Education 2 cr.

The study of education and schooling through philosophical, historical, sociological and curricular contexts.

EDUC-336 Multiculturalism: Issues and Perspectives 2 cr.

ESA

Intensive study of diversity in U.S. schools. Examination of the educational needs of students from various ethnic, cultural, religious, language and social class groups. Discussion of issues related to racism, sexism and oppression.

EDUC-376 Cross-Cultural Field Experience 1 cr.

Supervised field experience in an educational setting with diverse learners to increase awareness, understanding, sensitivity, and appreciation for ethnic and cultural diversity. The acquisition of knowledge, skills, and professional dispositions necessary for educators to facilitate learning for all students are emphasized. Benchmark I completed.

EDUC-380 Reading and Language Arts in Elementary Education 3 cr.

Current philosophies in reading and language arts education, the centrality of language arts to the elementary curriculum and methodologies for the elementary classroom. Benchmark I completed.

EDUC-381 Preclinical: Elementary Education Language Arts and Reading 1 cr.

Supervised teaching experience in developing the prospective teacher's ability in elementary education language arts and reading skills. Benchmark I completed.

EDUC-382 Secondary Reading and Language Development 2 cr.

Effective utilization of reading and language development methodologies in secondary content area classrooms. Benchmark I completed. Prerequisites: take EDUC-303.

EDUC-400 Workshop: Special Topics in Education 1-3 cr. R

EDUC-401 Global Education Practicum 3 cr.

GLP

Summer

Experiential learning opportunity to provide student with in-depth study of one or more of the global education sub-groups: human rights and social justice, human commonality and diversity, population demographics, planet management, global belief systems, economic systems, conflict and control, political systems, science and technology and/or sustainable development.

EDUC-402 Global Perspectives for Educators 3 cr.

GLP

Fall and Spring

Strategies for infusing global perspectives into the classroom for those working in globalized organizations. Methodology, materials and instructional strategies necessary for effective implementation of global education in schools and individual classrooms as well as within global organizations. Topics/issues related to globalization to develop a foundation from which teachers and other leaders in organizations can draw ideas for their

specific needs.

EDUC-403 Educational Psychology of the Adult Learner 2 cr.

Spring and Summer

Psychological principles and theoretical framework guiding the educational process for adult learners. Special focus on planning and evaluating instruction while utilizing active learning to build strong learning communities.

EDUC-415 Classroom Management 2-3 cr.

Technique and theory for motivating Pre-K through grade 12 age students to manage their own behaviors, including preventive discipline, behavior management, classroom environment, classroom climate, effective communication, conflict resolution, and peer mediation. Must be taken concurrently with variety of field experiences. Benchmark I completed.

EDUC-416 Conflict Resolution and Crisis Management for Educators 2 cr.

Conflict mediation and crisis intervention strategies in school settings.

EDUC-430 Ojibwe Lifeways 2-4 cr.

ESA Summer

Indepth, interactive study of Ojibwe culture within a Wisconsin reservation community. \$

EDUC-495 Personal Learning Experience 2 cr.

An experimental program for juniors and seniors. By permission of program directors. Each student selects an area of life which involves ethical decision and investigates that decision-making process. The group enrolled for this experience meets with the directors twice a week for direction, discussion, and criticism. Self-evaluation paper at the close of the course, which is submitted to the critique of the directors and other members of the learning experience.

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Revised: August 2010

ELEC Electricity/Electronics

ELEC-204 Electricity/Electronics Fundamentals 3 cr.

Electricity/electronics, associated phenomena related to basic electrical and electronics systems. Examines devices, operation, application, theory from power devices to electronic devices, controls to microprocessors.

Prerequisites: take MATH-120.

ELEC-260 Electrical Circuits 3 cr.

Concepts and analysis techniques in DC and AC circuit analysis including current, voltage, resistance, capacitance, inductance, impedance, loop and node equations, transients, network theorems, real, reactive and apparent power in AC circuits.

Prerequisites: take PHYS-211 and MATH-153.

ELEC-271 Digital Logic and Switching 3 cr.

Analysis and synthesis of combinational and sequential switching circuits. Boolean algebra and number systems, switching functions, minimization, single and multiple output networks, realization of functions, programmable logic devices. Finite state sequential machines, state transition diagrams, machines and state equivalence. Algorithmic state machines and asynchronous state machines.

Prerequisites: take ELEC-204 or ELEC-260.

ELEC-272 Solid State Electronics 3 cr.

Basic semiconductor theory dealing with signals, operational amplifiers, diodes, bipolar junction and field effect transistor, frequency response, feedback, and circuit analysis.

ELEC-274 Fundamentals of Microprocessors and Microcomputer Systems 3 cr.

Concepts of microprocessors, microcomputer architecture, assembly language programming and peripheral components. Hardware topics include 80 x 86 processors, interrupts, bios, serial and parallel interfaces, video displays, hard drives, CD ROMS, memory devices and local and peripheral buses.

Prerequisites: take ELEC-271 and CS-144.

ELEC-290 Circuits and Devices 4 cr.

Electrical and electronic circuits and devices. Analysis of circuits containing passive and active components. Analog and digital circuitry including amplifiers and logic gates. Power calculations in alternating current circuits. Electro-mechanical energy conversion including DC and AC machinery. Lab activities include use of base test equipment and the construction of simple electronic circuits. Prerequisites: take MATH-154 and PHYS-282.

ELEC-303 Electronics Circuits, Devices and Applications 3cr.

Concepts and analysis techniques in DC and AC circuit analysis, basic electronics theory, devices, logic and systems, including capacitance, inductance, impedance, circuit equations, network theorems, signals, op-amps, transistors, and circuit analysis. Number systems, combinational logic, minimization, programmable logic devices, state machine algorithms, transition diagrams, asynchronous and synchronous sequential logic.

Prerequisites: take MATH-153 and PHYS-242.

ELEC-310 Biomedical Instrumentation 3cr.

Review of basic electronics; measurements of physical, chemical, biological, and physiological variables; safety, noise, isolation, grounding, and shielding in biomedical instrumentation; circulatory, nervous, respiratory systems and related instrumentation; introduction to clinical lab systems; introduction to medical imaging systems.

Prerequisites: take ELEC-204.

ELEC-340 Motors and Generators 2 cr.

Practical approach to basic operating theory, construction, maintenance of generators, motors, transformers, and machine control.

Prerequisites: take ELEC-204.

ELEC-341 Electrical and Mechanical Interface Devices 3 cr.

Introduction to control system technology of discrete processes with emphasis on the devices that interface between electrical and mechanical systems. Theory and applications of sensors, actuators, schematics, state charts, ladder diagrams, programmable logic controllers, and PC based data acquisition and control.

Prerequisites: take ELEC-204 or ELEC-260 and take PHYS-241 and POWER-260.

ELEC-382 Electronic Communications 4 cr.

Electrical/electronic communication systems, modulation, demodulation, R.F. and I.F. amplifiers, alignment, antennas, composite TV signal, receivers, transmitters, spectral representation of signals, amplitude modulation, AM/FM transmitters, side band transmission, AM/FM receivers, and frequency modulation.

Prerequisites: take ELEC-204.

ELEC-395 Seminar 1-2 cr.

Specific content is designed to upgrade competencies of participants. Content will change to reflect current state of the art in electricity/electronics or power mechanics. **R**

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Revised: September 2009

ENGGR Engineering Graphics

ENGGR-112 Principles of Engineering Drawing 3 cr.

Drafting principles, concepts, and graphic language necessary to communicate technical information on industrial drawings through sketching, traditional drafting (TRAD) and computer (CAD) techniques.

ENGGR-210 Engineering Graphics Using Solid Modeling 3 cr.

Engineering graphics principles and standards, development of effective technical communication skills between design, engineering, and manufacturing disciplines. Project planning, solid modeling, assembly composition and drafting techniques to support and solve engineering and design problems.

Prerequisites: take ENGGR-112.

ENGGR- 234 Computer-Assisted Design and Drafting 2 cr.

PC based CADD; solve problems with the assistance of computer hardware and software. Generate drawings for architectural and mechanical design applications.

Prerequisites: take ENGGR-112, AEC-130 or AEC-131.

ENGGR-266 3-D Computer Modeling and Rendering 3 cr.

Development of three-dimensional computer models and computer graphic images. Includes 3-D surface modeling and rendering.

Prerequisites: take ENGGR-112 or ENGGR-234.

ENGGR-280 Engineering Graphics Applications 3 cr.

Contemporary software and hardware used to produce solutions for engineering design problems. Topics include comprehensive graphic standards and implementation, advanced methods of producing engineering graphics, tools for improving design efficiency, and alternative communication technologies.

Prerequisites: take ENGGR-210.

ENGGR-395 Seminar 1-2 cr.

Title will reflect specific design, research and development content. Current and projected communication methods, concepts, technologies and innovations in design, research and development. **R**

ENGGR-400 Workshop 1-3 cr.

Special topics in design, research and development, providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. **R**

ENGGR-436 Computer Assisted Design Problems 2 cr.

Advanced CADD applications. Construct three dimensional wireframe drawings. Perform finite element analysis on select components. Customize software for specific applications. Customize software for specific applications. In-depth analysis of CADD applications in mechanical and architectural design. Instructor's consent required.

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Revised: April 2010

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ENGL English

ENGL-090 Writing Workshop (3 cr.)

This is a remedial writing course that provides individual instruction to meet basic competencies for entry into English 101. Students will write paragraphs and short essays that will prepare them for college-level writing. They will also be given instruction in grammar, usage, punctuation and mechanics. Students must receive a C or better in this course in order to register for English 101. Although this course does not count toward graduation, it is included in the student's course load, fees, and grade point average.

ENGL-101 Freshman English – Composition (3 cr.)

COMSK/WRIT

Fall, Spring and Summer

Principles and practices of writing; documented paper. Placement Test Required.

ENGL-102 Freshman English – Reading and Related Writing (3 cr.)

COMSK/RDG

Fall, Spring and Summer

Readings focused on a theme reflected in literature. Topics and approaches developed by each instructor; opportunity for responsible, independent study; requires intensive practice in composition.

Prerequisites: take ENGL-101 or ENGL-111.

ENGL-111 Freshman English – Honors I (3 cr.)

COMSK/WRIT

Fall and Spring

Readings in world literature and related writing for training in composition techniques; documented paper. Placement Test Required.

ENGL-112 Freshman English – Honors II (3 cr.)

COMSK/RDG

Fall and Spring

Continuation of ENGL-111.

Prerequisites: take ENGL-101 or ENGL-111.

ENGL-113 Honors Seminar I (3 cr.)

COMSK/WRIT

Fall and Spring

Intensive reading and writing that examines topics in world literature from Shakespeare to the present.

Prerequisites: take ENGL-101 or ENGL-111.

ENGL-121 Introduction To Technical Communication (3 cr.)

Fall

Trends, opportunities, and technologies used in technical communication. Rhetorical dimensions of technical documentation as well as ethical and social responsibilities.

ENGL-125 Professional Writing Elements of Style (3 cr.)

Spring

Develop stylistic fluency through study of interaction of rhetoric, style, and grammar.

May not be substituted for any required English composition course. Prerequisites: take ENGL-101 or ENGL-111.

ENGL-207 Writing For the Media (3 cr.)

Fall

Theory and practice of writing for the media.

Prerequisites: take ENGL-102, ENGL-112 or ENGL-113.

ENGL-210 Journalism Practicum(1 cr.)

Fall and Spring

Work on regularly published newspaper and submit articles for evaluation and publication.

Prerequisites: take ENGL-102, ENGL-112 or ENGL-113. **R**

ENGL-218 Mass Communication: Effects of the Technology On Society (3 cr.)

TECH

Spring

The ideological and social implications of mass communication technology.

Prerequisites: take ENGL-101 or ENGL-111.

ENGL-225 Editing Processes and Practices (3 cr.)

Spring

Comprehensive editing, copy editing, proofreading, and style selection; review of standard written English grammar and usage.

Prerequisites: take ENGL-102, ENGL-112 or ENGL-113; and take ENGL-125.

ENGL-245 Creative Writing (3 cr.)

HUM/CRPRF

Fall and Spring

All aspects of imaginative writing. Prerequisites: take ENGL-102, ENGL-112 or ENGL-113. **R**

ENGL-247 Critical Writing (3 cr.)

COMSK/WRIT

Fall, Spring, and Summer

The art of evaluation and judgment; writing critical reviews and articles; documented critical paper.

Prerequisites: take ENGL-102, ENGL-112 or ENGL-113.

ENGL-312 International Technical Communication (3 cr.)

Spring

Theories and practical approaches to writing international technical documents, including globalization, localization, and translation preparations and procedures. Extensive use of case studies and cultural models. Scholarship in international technical communication and its relevance to workplace practice will be evaluated.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

ENGL-317 Topics in Journalism (1-3 cr.)

Intensive study of and practice in topics in journalism.

Prerequisites: take ENGL-102, ENGL-112 or ENGL-113.

ENGL-320 Business Writing (3 cr.)

Fall and Spring

Written communication in business: practice in writing memos, letters, electronic correspondence, reports and other practical communication.

Prerequisites: take ENGL-102, ENGL-112 or ENGL-113.

ENGL-330 Feature Writing (3 cr.)

Fall and Spring

Plan, research and create feature articles for newspapers, magazines and online publications; develop research tools and writing skills; observe ethical and legal considerations in writing.

Prerequisites: take ENGL-207.

ENGL-335 Critical Approaches to Digital Humanities (3 cr.)

Fall

Explores the rhetoric of technologies and the dynamic interaction between digital technologies and society.

ENGL-340 The Structure of English (3 cr.)

Fall

New analytic and descriptive methods applied to modern English.

Prerequisites: take ENGL-102, ENGL-112 or ENGL-113.

ENGL-342 Creative Writing II (3 cr.)

Advanced practice in creative writing that builds on skills taught in ENGL-245 Creative Writing, focusing on genre specific texts.

Prerequisites: take ENGL-245.

ENGL-343 Rhetoric of Technology (3 cr.)

TECH

Fall and Spring

Study of the way in which published information influences the development and dissemination of technology.

Prerequisites: take ENGL-102, ENGL-112 or ENGL-113.

ENGL-361 Hypertext Writing (3 cr.)

Fall and Spring

Investigate writer and audience interaction in a hypertext environment. Gain exposure to and utilize markup languages to maximize audience participation in websites and other hypertext documents. Research, production and testing of an original website and hypertext essays.

Prerequisites: take ENGL-102, ENGL-112 or ENGL-113.

ENGL-371 Rhetoric and Style: Strategies of Argumentation (3 cr.)

Spring

This course examines classical rhetoric to identify its enduring elements and concerns as well as its critical tensions and conflicts. Students will obtain the vocabulary and conceptual understanding of the rhetorical tradition with attention to developing both oral and written arguments.

Prerequisites: take ENGL-102, ENGL-112 or ENGL-113.

ENGL-385 Document Design (3 cr.)

Fall

Approaches to transmitting information in print and screen documents through the application of rhetorical and design principles. Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

ENGL-388 Writing for the Internet (3 cr.)

Fall

Investigate writer and audience interaction in hypertext and multimedia environments, and gain exposure to and utilize markup languages to maximize audience participation. Research, produce, and test an original hypertext or multimedia artifact. Prerequisites: take ENGL-102, ENGL-112 or ENGL-113.

ENGL-407 Seminar in Applied Journalism (3 cr.)

Spring

Investigation into journalistic practices in particular disciplines, industries, and trades. Students will research, synthesize, and apply journalistic practices to their chosen field. Prerequisites: take ENGL-207.

ENGL-415 Technical Writing (3 cr.)

Fall, Spring and Summer

On-the-job writing for business and industry; reports, letters and other documents. Prerequisites: take ENGL-102, ENGL-112 or ENGL-113.

ENGL-425 Usability Design and Testing (3 cr.)

Spring

Plan, design, and conduct tests, measure effectiveness and efficiency of written and online documents; examine methodology and application of usability testing to demonstrate its value and importance. Prerequisites: take ENGL-415.

ENGL-430 Writing For Content Management (3 cr.)

Fall

Concepts and practices of content management systems for the creation and production of technical communication both in print and online. Includes document workflow, globalization and translation of content for assembly of relevant documents. Uses case studies and client-based projects. Prerequisites: take ENGL-415.

ENGL-435 Writing Technical Manuals (3 cr.)

Spring

Production of a technical manual — planning procedure, collecting information, analyzing audience, writing and field testing. Prerequisites: take ENGL-415.

ENGL-437 Technical Writing Practicum (1-3 cr.)

Arranged

Plan, write and produce a technical document for a client. Principles of document design, clear writing for a specific audience, methods of determining client needs, and methods of producing the final document. Prerequisites: take ENGL-415. **R**

ENGL-438 Writing Practicum For Early Childhood Education (1 cr.)

Creation of professional letters, newsletters, and other written documents for future early childhood educators. Early Childhood majors only. Prerequisites: take ENGL-102, ENGL-112 or ENGL-113.

ENGL-440 Writer At Work Seminar (2 cr.)

Summer

Introduction to and practice in the professional side of creative writing, including but not limited to publication, reading, writers conferences and grant writing. Instructor's consent required.

Prerequisites: take ENGL-342.

ENGL-471 Technical Communication and Consulting (3 cr.)

Spring

Working for clients, setting rates and estimating costs, investigating and contacting markets, contacting and interacting with editors, handling taxes and insurance, copyright, intellectual property, job search for freelance or corporate jobs. Practical networking; global dimensions of and new trends in technical communication.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

ENGL-480 Seminar in Digital Humanities (3 cr.)

Spring

Research into and discussion of current and emerging issues in the digital humanities. Subject matter covered will vary to reflect the state of current research.

Prerequisites: take ENGL-335.

ENGL-495 Digital Humanities Capstone (3 cr.)

Fall and Spring

Development of student-initiated research project in the Digital Humanities over two semesters. Results in thesis in medium appropriate to topic.

Prerequisites: take ENGL-335. **R**

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Revised: July 2010

FCSE Family and Consumer Sciences Education

FCSE-101 Introduction to Family and Consumer Sciences Education (1 cr.)

Fall

Contribution of Family and Consumer Sciences to development of individuals and families; responsibilities of a Family and Consumer Sciences professional.

FCSE-201 Teaching Methods in Family and Consumer Sciences Education (2-3 cr.)

ESC Fall and Spring

Presentation strategies appropriate in the field family and consumer sciences education. Background check required.

FCSE-300 Externship: Family and Consumer Sciences Community Education (4-8 cr.)

Fall and Spring

Practicum in one or more of the following family and consumer sciences education programs: extension services, elementary education, post- secondary education, occupational teaching experience and community educational services. Approval of graduate program director required if taken for graduate credit. Consent of program director.

FCSE-320 Career and Technical Education Programs in Family and Consumer Sciences Education (2 cr.)

Fall and Spring

Techniques, materials and curriculum for family and consumer sciences education wage-earning programs in secondary and post-secondary schools, preliminary procedures for program development. Education majors: Benchmark I completed.

FCSE-341 Clinical Experience in Schools(1 cr.)

Fall and Spring

Supervised experience in classroom teaching for development of motor, perceptual, social and cognitive learning through family and consumer sciences education substantive areas. Education majors: Benchmark I completed. **R**

FCSE-380 Consumer Economics (3 cr.)

Spring

Personal and family consumer economics for family and consumer education programs; management of human and non-human resources in achieving personal, family and community goals.

Prerequisites: take ECON-201 or ECON-210.

FCSE-385 Family Housing (3 cr.)

Fall

Individual/family's housing needs and resources as a basis for family and consumer education programs. The impact of historical, environmental, social, cultural, and technological, aesthetic, and design influences.

FCSE-390 Family and Consumer Sciences Education Curriculum and Evaluation (4 cr.)

Spring

Development of curriculum and evaluation tools for family and consumer sciences education subject matter and critical thinking skills. Benchmark I completed.

FCSE-397 Field Experience in Family and Consumer Sciences Education (2 cr.)

Fall, Spring and Summer

Field experience related to family and consumer sciences education skills and knowledge used in teaching wage-earning courses at secondary level.

FCSE-448 Student Teaching — Family and Consumer Sciences Education (8-16 cr.)

Fall and Spring

Student teaching practicum in K-12 settings in family and consumer sciences education/family life. Consent of program director. Minimum cumulative GPA 2.75.

Prerequisites: take FCSE-301, FCSE-360.

FCSE-451 Family Life Education Programs (2 cr.)

Fall and Spring

Development of family life education programs including methods, materials and techniques for teaching family relationships and child development at the secondary level.

FCSE-488 Internship Teaching (8-16 cr.)

Fall and Spring

Alternate method of obtaining student teaching experience. Teacher interns receive license to teach and salaried appointments in cooperating school systems for one semester.

Prerequisites: take FCSE-301.

FCSE-497 Field Experience in Family and Consumer Sciences Education (2 cr.)

Field experience related to family and consumer sciences education skills and knowledge used in teaching wage-earning courses at secondary level.

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Revised: September 2009

FN Food and Nutrition

FN-101 Dietetics as a Profession 1 cr.

Fall

Survey of types of dietetic and foodservice administration programs in the United States; role and function of staff; professional literature.

FN-102 Nutrition For Healthy Living 2 cr.

HPE HLTH

Fall and Spring

Food selection and eating patterns/standards, applied nutrition knowledge and interrelationships, nutrition information source analysis, weight management, the nutrition- exercise-fitness connection. Analysis of personal lifestyle and food patterns in relationship to optimal physical and mental well being.

FN-106 Nutrition in the Hospitality Industry 2 cr.

Fall and Spring

Basic principles with application to the hospitality industry. Basic physiological nutrition; cultural and psychological influences on food preference. Interpretation of nutrition information, food composition data, and discussion of appropriate products and services. Nutrition analysis and programming on and off the computer will be stressed. Not appropriate for students with credit in FN-202 or FN-212.

FN-111 Food Systems and Technology Futures 1 cr.

Fall

Introduction to food systems and technology with emphasis on trends, career opportunities and competencies required for success in the concentration areas of food systems management, food science, food merchandising and distribution and food communication.

FN-115 Principles of th Food Industry 2 cr.

Analysis of food processes, procedures, and regulations. Application to protocols of the food industry. Appreciation of safety and health food service products.

FN-124 Foods 4 cr.

Fall and Spring

Scientific principles and application in the selection, preparation and service of food.

FN-202 Food and Beverage Distribution Industry 3 cr.

An introductory course for students in the field of food and beverage merchandising and distribution. A study of history, evolution, classification, manufacture/production, packaging, distribution, and merchandising with an emphasis on trends and employment. Resource persons from industry and field trips will be utilized.

FN-207 Medical Terminology 1 cr.

Fall and Spring

Medical terminology for allied health occupations. Self-paced instruction utilizing a word-building system to learn word parts used to construct or analyze new terms. Emphasis on spelling, definition, usage and pronunciation.

FN-208 Management of Food Production 3 cr.

Fall and Spring

Development and application of management principles to decision making in small batch food production which is based on menu driven concepts. Prerequisites: take one group: take FN-124 and FN-212, or take FN-212 and FN-240. \$

FN-212 Nutrition 3 cr.

Fall and Spring

Basic principles of nutrition applied to current issues in health maintenance.

Prerequisites: take BIO-132 or BIO-234, and take CHEM-115 or CHEM-125.

FN-215 Art and Science of Food 3 cr.

Fall and Spring

Analysis and application of food principles applied to storage, preparation and service.

Special emphasis on food safety and the art of food preparation. Prerequisites: take HT-121.

FN-220 Outdoor Cooking 1 cr.

Food preparation principles in cooking and serving outdoors; equipment for outdoor food preparation; foods for camping, backpacking and canoe camping; preparing wild game and gathering and preparing wild foods.

FN-222 Food Technology 2 cr.

TECH GLP

Fall, Spring and Summer

Food processing technology and how it impacts society, individual health and well-being, environment and the future; technological innovations and new developments to meet the changing requirements of society and increasing global demand for food. \$

FN-225 Spec Topics in Food and Nutrition 1-2 cr.

Summer

Study of special topics in food and nutrition. Equivalent to 229-225. R \$

FN-236 Nutrition For Young Children 1-2 cr.

Fall, Spring and Summer

Impact of nutrition on growth, development and health of young children. Assessment of nutritional status, changing needs and eating patterns, the link between nutrition, dietary practices, and behavior, and translating current nutrition information into effective nutrition education strategies for children. Prerequisites: take FN-102 or FN-106.

FN-240 Food Science 4 cr.

Fall and Spring

Physical and chemical changes affecting selection, preparation and service of food.

Prerequisites: take CHEM-201.

FN-260 Menu Planning and Design 2 cr.

Fall

Principles of menu planning, design and production for commercial and institutional food establishments.

FN-310 Lifespan Nutrition 3 cr.

Spring

Nutrition concepts and concerns associated with each lifespan stage; integration of social, psychological, cultural, economic, and legislative factors to develop issue-centered approaches to meet nutrition needs.

Prerequisites: take FN-102 or FN-106, and take one course in Biology.

FN-312 Nutritional Assessment 2 cr.

Fall and Spring

Introduction to basic components of nutritional assessment as applied to individuals.

Prerequisites: take FN-212.

FN-320 Advanced Nutrition 3 cr.

Fall and Spring

Principles of human nutrition applied to individual, family, community and world problems.

Prerequisites: take FN-212 and CHEM-311.

FN-325 Special Topics in Food and Nutrition 1-3 cr.

Fall and Spring

Study of special topics in food and nutrition. **R**

FN-330 Institutional Menu Planning 3 cr.

Fall and Spring

Principles of cycle menu planning, design and marketing for institutional food settings, which includes culinary skills, basic food preparation and modified menus to meet the special dietary needs of an individual or group.

Prerequisites: take FN-212.

FN-342 Advanced Foods 3 cr.

Fall

Comparative studies of food selection and preparation; appraisal of foods. Prerequisites: take FN-124 or FN-240.

FN-350 Food Processing 3 cr.

Spring

Industrial methods used to prepare and preserve food. Prerequisites: Take FN-124 or FN-240; take MATH-120 and BIO-306; take CHEM-115 or CHEM-125 or CHEM-135.

FN-355 Sports Nutrition 3 cr.

Spring

Nutritional and metabolic requirements of physical activity. Metabolic fuel utilization during exercise and physiological adaptations to exercise training will be discussed. The health and well-being benefits of an optimal diet-exercise regime will be emphasized.

Prerequisites: take FN-320, CHEM-311 and BIO-234.

FN-360 Nutrition Counseling: A Team Approach 3 cr.

Fall and Spring

Inter-disciplinary team approach to individual and group client-centered nutrition counseling which includes assisting and advising clients on dietary information. Skills and techniques based on nutrition counseling theories that are most useful to registered dietitians in enhancing quality of life and planned nutrition intervention.

Prerequisites: take FN-312.

FN-380 Community Nutrition 3 cr.

Fall and Spring

Current status and legislation of community nutrition programs. Assessment of community needs and resources, program planning, funding, and evaluation. The role of the community nutritionist/home economist to help individuals, families, and communities solve nutrition problems. Prerequisites: take FN-212.

FN-397 Field Experience 2 cr.

FN-397C Field Experience Seminar: Dietetics 1-2 cr.

Field experience related to the dietetic areas. Prior approval of field position, 320 hours of work experience, and seminar. Written reports required for two-credit option.

FN-397E Field Experience: Dietetics 1 cr.

Field experience related to the dietetic areas. Prior approval of field position, 320 hours of work experience, and seminar. Written reports required for two-credit option.

FN-400 Food Quality 4cr.

The applications of qualitative and quantitative tools in conjunction with statistical methods to implement quality management in the food industry.

Prerequisites: take FN-350, STAT-130, or STAT-320.

FN-406 Nutrition Education 3 cr.

Fall and Spring

Nutrition education as planned behavioral change: problems and solutions in instructing various populations; identification, development and evaluation of nutrition resources.

Prerequisites: take FN-212.

FN-408 Preprofessional Development in Dietetics and Nutrition 1 cr.

Fall

Provides a step by step, efficient and effective process toward completion of application of Supervised Practice Programs (Dietetic Internship), graduate school, or employment.

Junior status or higher. **R**

FN-410 Food and Nutrition Policy Regulation and Law 3 cr.

Fall

Food and nutrition policy development and evolution. Key acts and agencies governing food regulation and law. Process of creating or changing law. Compliance and enforcement rules in

inspection, labeling, export and import. Administrative practice in food law including proceedings and judicial review.

FN-413 Maternal and Child Nutrition 3 cr.

Fall

Application of principles to maternal, infant, child and adolescent nutrition.

Prerequisites: take FN-212 and BIO-132, or take FN-212 and BIO-234.

FN-414 Catering 3 cr.

Spring

Theory and application of operational and managerial principles for on/off-premise catering for special events. Cannot be taken for credit by students who have previously taken HT-424.

Prerequisites: take FN-124 or FN-240. \$

FN-415 Nutritional Issues in Gerontology 3 cr.

Theory and relationships of nutrition, longevity and aging. Food and nutrition legislation for the elderly--theory and implementation. Nutritional implications of acute and chronic disease states common among the elderly.

Prerequisites: take FN-320 and CHEM-311.

FN-417 Medical Nutritional Therapy I 3 cr.

Fall

Principles and methods for use in certain pathological conditions or chronic and acute disease processes. Incorporates principles of medical nutritional therapy in nutrition assessment, diet prescription, medications, care plans and documentation.

Prerequisites: take FN-312.

FN-418 Medical Nutritional Therapy II 4 cr.

Fall and Spring

Principles and methods for use in certain pathological conditions or chronic and acute disease processes. Incorporation of the principles of nutrition assessment, diet prescription, medications, care plans, and documentation into the management of disease processes.

Prerequisites: take FN-312.

FN-418 Diet Therapy 4 cr.

Fall and Spring

Principles and methods for use of diet as therapy in certain pathological conditions.

Prerequisites: take FN-320 and BIO-362.

FN-420 Food Styling 1-3 cr.

Fall

Food as media for artistic expression; effective use of color, form and texture.

Prerequisites: take FN-124 or FN-240. R

FN-431 Readings in Food Science and Nutrition 1-2 cr.

Critical reading, evaluating, and reporting from pertinent current journals and other publications. R

FN-438 Experimental Foods 3 cr.

Fall and Spring

Experimentation with selected food materials, techniques and equipment; directed study in individually chosen area.

Prerequisites: take FN-124 or FN-240; take CHEM-115 or CHEM-125 or CHEM-135.

FN-442 Basic Sensory Analysis 3 cr.

Spring

Basic understanding of the psychobiology and physiology of senses and the role both play in consumer product acceptance. Basic tests of sensory analysis, including both objective trained panel difference tests and subjective preference/acceptance tests. Appropriate for all majors who produce products for/or merchandise to consumers.

Prerequisites: take FN-124 or FN-240.

FN-450 Food Engineering 3 cr.

Fall

Application of pertinent chemistry, physics and mathematics principles to food processing.

Prerequisites: take CHEM-201, MATH-153, MATH-154, and FN-350.

FN-461 Multicultural Aspects of Food and Nutrition Patterns 3 cr.

ESC Fall and Spring

Food and nutrition patterns as influenced by social, religious, geographical, economic and political factors. Cultures emphasized include Native American, African American, Hispanic and Asian American. Food as a means of cross-cultural communication.

Prerequisites: take FN-124 or FN-240.

FN-470 Food Distribution Operations and Control 3 cr.

Current trends and management strategies in the distribution of food and beverages, from manufacturer to consumer.

Prerequisites: take FN-202 BUMKG-330.

FN-497C Field Experience: Food Systems and Technology 1 cr.

Seminar: analysis, interpretation and synthesis of food systems and technology principles through a written paper and oral seminars following 320 hours of field work in an approved position. Integrates synergistic principles/activities from program courses and among concentrations.

FN-497E Field Experience: Food Systems and Technology 1 cr.

Food systems and technology area field experience. Approved field position, 320 hours of work experience, and development of concept/outline for written analysis paper.

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Revised: May 2009

FREN French

FREN-101 Elementary French I (4 cr.)

COMSK LANG FGLP Fall

Listening, pronunciation, reading, and writing. Basic vocabulary, polite phrases, questions and answers. Adjective agreement, present and some past-tense verbs. Cultural information about the French-speaking world.

FREN-102 Elementary French II (4 cr.)

COMSK LANG FGLP Spring

Second level of understanding, speaking, reading, and writing in French. Introduction to future, conditional, imperfect and subjunctive verbs. Direct and indirect object pronouns. Short spontaneous and directed conversations. Topics in cultures of French-speaking people. One year of high school French or FREN-101 required.

FREN-121 Practical French I (2 cr.)

FGLP Fall and Spring

First quarter college French. Conversational phrases and vocabulary for practical situations. Basic present tense verb patterns. Intensive pronunciation drill. Not for students who have taken FREN-101.

FREN-122 Practical French II (2 cr.)

COMSK LANG FGLP Fall and Spring

Second quarter college French, conversational phrases and vocabulary, irregular and past tense verb patterns. Not appropriate for students who have completed FREN-101 (328-101). One year of high school French or FREN-121 Required.

FREN-123 Practical French III (2 cr.)

COMSK LANG FGLP Fall and Spring

Third quarter college French. Imperfect and reflexive verbs, direct and indirect object pronouns, commands, conversational vocabulary. (Not for student who have complete FREN-102.) One year of high school French or FREN-101 required.

FREN-124 Practical French IV (2 cr.)

COMSK LANG FGLP Fall and Spring

Fourth quarter college French. Future, conditional and subjunctive verbs. Introduction to relative pronouns. Conversational vocabulary. (Not for students who have completed FREN-102.)

FREN-201 Intermediate French I (4 cr.)

HUM FLC FGLP Fall

Vocabulary development through readings and discussion on French and Francophone civilization. History, art, music, short stories and poems, including contemporary culture. Taught in French. Two years of high school French or FREN-102 required.

FREN-202 Intermediate French II (4 cr.)

COMSK LANG FGLP Spring

Grammar review, contemporary vocabulary, free conversation in French. Three years of high school French or FREN-201 required.

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Reviewed: February 2007

GCM Graphic Communications Management

GCM-141 Graphic Communications (3 cr.)

Fall, Spring and Summer

Overview of the graphic communications industry and hands-on introduction to production workflow from design through delivery. Digital premedia (for print and web), printing processes, postpress and finishing, raw materials, buying and specifying printed products and non-print graphic services.

GCM-151 Premedia Tools and Processes (3 cr.)

Fall, Spring and Summer

Digital premedia tools and processes for print and non-print graphics production. Premedia software, image capture/ creation, pagination, imposition principles, film assembly, proofing, and platemaking.

Prerequisites: take GCM-141.

GCM-251 Digital Premedia File Creation (3 cr.)

Fall, Spring and Summer

Digital creation, capture and manipulation of graphics for color layouts for print and digital distribution. Premedia systems, workflow, color theory, scanning, digital photo, bitmap and vector graphic creation and editing. File and font management, document layout, proofing, preflight, PDF creation and submission of files for layout.

Prerequisites: take GCM-151 or DES-220.

GCM-266 Digital and Offset Press Systems (3 cr.)

Fall and Spring

Imaging paper of other substrates via offset lithography and digital printing methods from an output-ready digital file. Image carriers, press systems, process control, densitometry, colorimetry, ink, toners, and substrates. Reproduction of line and halftone copy, in multiple and process colors.

Prerequisites: take GCM-141.

GCM-270 Postpress Operation and Planning (3 cr.)

Fall and Spring

Current and emerging technologies for postpress operations in bindery and finishing. Postpress production and job planning from the postpress perspective. Quality control tools and techniques as applied to postpress operations.

Prerequisites: take GCM-141.

GCM-300 Workshop (1-3 cr.)

Fall, Spring and Summer

Special topics in graphic communications, providing hands on or experiential learning activities. Specific content and title to reflect the topic of the workshop. **R**

GCM-351 Cross-Media Marketing Systems (3 cr.)

Fall and Spring

Software and systems used to plan and produce personalized and integrated cross-media (Web, print, PDF, e-mail) marketing/promotion communication. PDF editing and repurposing, digital asset management, databases, layout issues, dynamic content, scripting, automation, variable data digital printing and personalization, digital distribution alternatives, and web storefronts.

Prerequisites: take GCM-251.

GCM-356 Color Electronic Prepress (3 cr.)

Fall, Spring and Summer

Electronic capture, manipulation, and evaluation of color images for presentations and print production. Work flow, system, and file management issues faced in complex page layout.

Prerequisites: take 1 option: take GCM-141 and GCM-151, or take GCM-141 and DES-220.

GCM-362 Screen and Specialty Print Manufacturing (3 cr.)

Fall and Summer

Applications and techniques for screen and specialty printing on a variety of substrates. Issues and process-control concerns related to these image transfer methods.

Prerequisites: take GCM-141. \$

GCM-363 Package Printing (3 cr.)

Fall and Spring

The production of graphics on labels, cartons, and flexible packages with an emphasis on flexography and rotogravure. Present and future technology trends in package printing.

Prerequisites: take GCM-141. \$

GCM-367 Color Management (3 cr.)

Fall and Spring

Industry standards-based color management practices for accurate color reproduction throughout both RGB and CMYK workflows. Colorimetric and densitometric analysis. Device calibration and profiling. Color management software applications, devices and techniques for controlling image capture, monitor display, soft proofing and analog or digital printing.

Prerequisites: take GCM-266 and either STAT-130 or STAT-320. R

GCM-380 Graphic Communications Estimating and Scheduling (3 cr.)

Fall and Spring

Graphic communications workflow management issues including cost of production or services, estimating practices, production scheduling and coordination of both print and non-print graphic communications projects.

Prerequisites: take GCM-251, GCM-266, and GCM-270; take INMGT-200; and take BUACT-201 or BUACT-206.

GCM-443 Graphic Communications Practicum (3 cr.)

Fall, Spring and Summer

Integration of all graphic communications manufacturing processes in the design and production of print and non-print graphic products and services for clients in the university community. Special emphasis on the process and workflow management roles of estimating, customer service, scheduling, planning, production supervision and quality control.

Prerequisites: take GCM-351, GCM-266, and GCM-380; Corequisite: GCM-495. R

GCM-445 Publication Production (3 cr.)

Fall, Spring and Summer

Cross-discipline work teams experience integration of skills developed in English, speech, art, graphic communications, industrial management and business courses to design, plan, schedule, produce and distribute print and digital versions of a magazine/newsletter.

Prerequisites: take GCM-141.

GCM-446 Digital Imaging (3 cr.)

Fall and Spring

Preparation, capture and manipulation of digital information for current and emerging digital distribution technologies. Repurposing of print media files for alternative distribution systems.

Prerequisites: take GCM-356.

GCM-470 Graphic Communications Distribution Management (3 cr.)

Fall and Spring

Systems and processes used in distribution and delivery of printed products. United States Postal Service, parcel delivery, shipping, warehousing and fulfillment.

Regionalization, personalization, print-on-demand, demographic binding and emerging distribution strategies.

Prerequisites: take GCM-270

GCM-475 Graphic Communications Cost Estimating (3 cr.)

Fall and Spring

Estimating production costs and establishing budget hourly rates and completion time for tasks associated with graphic reproduction. Utilization of a computer integrated manufacturing (CIM) information system to facilitate estimating and managing production processes based on data collected from manufacturing floor real-time terminals.

Prerequisites: take GCM-141, and take BUACT-200 or BUACT-206.

GCM-480 Graphic Communications Customer Service And Administration (3 cr.)

Fall and Spring

Administrative, management and leadership roles in directing functional areas of graphic communications companies including sales, customer service, management, human resources, and training. Senior level or higher.

Prerequisites: take GCM-380.

GCM-495 Graphic Communications Management Seminar(3 cr.)

GLP

Fall, Spring and Summer

Overview of the graphic communications industry; its size, market segments, profitability and organization. Research and analysis of company annual reports. Strategic planning, management and leadership, industry trends and forecasts, trade organizations, news and other information sources. Impact of technology, global issues, and competing information distribution channels. Senior level or higher.

Prerequisite: take GCM-349 or GCM-449.

Corequisite courses: GCM-443. **R**

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Revised: December 2008

GDD Game Design and Development

GDD-101 Introduction to Video and Computer Game Design and Development (3 cr)

Fall

Principles of video and computer game design and development. Students design and develop games, analyze a popular game, and learn about various aspects of the game industry. Game design, story development, visual art production and programming.

GDD-325 Two Dimensional Game Design and Development (4 cr)

Hands-on experience designing video games. Design and develop two-dimensional games from concept to completion in teams. Production environment will be setup to reflect the approach used in the game development industry.

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Reviewed: April 2009

GEM Golf Enterprise Management

GEM-101 Introduction to Golf Enterprise Management 1 cr.

Overview of the golf industry, national and international golf associations, careers in the golf industry, and the B.S. in Golf Enterprise Management.

GEM-149 Cooperative Education/Internship 1-6 cr.

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

GEM-201 Principles of Golf Enterprise Management 3 cr.

Comprehensive survey of golf facility operations and management from perspectives of resort, private, semi-private, and daily fee courses, to include principles of business and customer service, human resource management, course design and management, retail and back shop operations, food and beverage management, and event planning.

GEM-249 Cooperative Education/Internship 1-6 cr.

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

GEM-250 Turfgrass Management for Golf Courses 3 cr.

Investigates the broad subject of turfgrass management. Emphasis is placed on the application of basic turfgrass principles to golf course turfgrass culture.
Prerequisite: take GEM-101.

GEM-277 Software and Technology 3 cr.

Investigates the use of software and technology in the golf industry. Marketing, revenue planning, tee time management, point of sale, guest and staff scheduling and performance evaluation will be analyzed using proprietary industry software.
Prerequisites: take GEM-101.

GEM-301 Customer Development, Retention and Marketing 3 cr.

Current trends and programs for golf course customer recruiting and retention, marketing strategies, conducting and applying market research including database and internet marketing for golf course customer development and retention in public fee, semi-private, private and resort facilities.
Prerequisites: take GEM-101 and GEM-201, and take BUMKG-330 or HT-251

GEM-349 Cooperative Education/Internship 1-6 cr.

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

GEM-350 Golf Course Soils, Layout, and Designs 3 cr.

Golf course layout and design, soil characteristics that affect successful turf grass establishment and maintenance. Topics include soil components, soil physical and chemical properties, drainage, irrigation, golf course layout, design and construction, and risk assessment.

Prerequisites: take GEM-101 and GEM-201

GEM-445 Event Management 3 cr.

Planning, organizing and the management of events will be investigated for the hospitality, tourism and golf industries. Emphasis is placed on the design, internal management systems and post event evaluation.

GEM-450 Environmental Golf Course Management 3 cr.

Emphasizes the applied knowledge related to golf course operations and environmental perspective towards effective management.

Prerequisites: take GEM-250.

GEM-449 Cooperative Education/Internship 1-6 cr.

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

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Revised: February 2009

GEOG Geography

GEOG-104 World Geography 3 cr.

SBSCI GEOG GLP Fall and Spring

Introduction to regional and cultural geography of the world; physical and human resources of major areas of the globe.

GEOG-251 Introduction to Geography and Geographic Information Systems 4 cr.

SBSCI GEOG GLP Fall, Spring and Summer

Introduction to the regional and cultural geography of the world, cartography, physical and human resources of major areas of the globe and related geographic information.

Introduction to Geographic Information Systems (GIS) and its use in a variety of applications.

GEOG-351 Intermediate Geographic Information Systems 4 cr.

Fall, Spring and Summer

Basic analytical operations in Geographic Information Systems using GIS software.

Prerequisites: take GEOG-251.

GEOG-451 Advanced Geographic Information Systems 4 cr.

Fall, Spring and Summer

Integration of GIS and analytical and quantitative methodologies using spatial analysis, geostatistical analysis, network analysis, and 3D analysis.

Prerequisites: take GEOG-351.

GEOG-452 Geographic Information Systems Research Applications 2-4 cr.

Fall, Spring and Summer

Individualized research applying advanced GIS techniques to problems related to students' areas of study under the supervision of faculty members in their programs. Students plan, design and execute GIS projects which build geographic databases, analyze data spatially, and present results.

Prerequisites: take GEOG-451.

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Revised: February 2007

HDFS Human Development and Family Studies

HDFS-101 Introduction To Human Development and Family Studies (1 cr.)

Fall and Spring

Fields of human development and family studies; occupational opportunities in programs serving families and children.

HDFS-115 Individual and Family Relations (3 cr.)

ESC

Fall and Spring

Dynamics of social-psychological forces affecting family interaction. Explorations of courtship, husband-wife, parent-child relationships.

HDFS-124 Human Development: Early Childhood (3 cr.)

Fall and Spring

Principles and theories of growth and development prenatal through age 8, with a systemic perspective on physical, motor, cognitive, language, social and emotional development. Observations required.

HDFS-195 Honors Seminar: Lifespan Human Development (3 cr.)

SBSCI PSYC

Fall

Review, discuss and analyze theories of human development across the lifespan. Acceptance into Honors Program.

HDFS-215 Dynamics of Family Development (3 cr.)

ESB

Fall and Spring

A study of the family with emphasis on environmental factors significant in marriage and family relationships.

Prerequisites: take HDFS-115.

HDFS-225 Skill Training for Individual and Family Interventions (3 cr.)

Fall and Spring

Concepts and skills in developing rapport, assessing goals and initiating change with children, parents, couples and families across the life span in professional settings.

HDFS-255 Lifespan Human Development (3 cr.)

SBSCI PSYC ESC

Fall and Spring

Lifespan individual development. Critical examination of influences on individual development across the lifespan.

HDFS-257 Lifespan Sexuality (3 cr.)

HPE HLTH

Fall and Spring

Introduction to human sexuality over the lifespan, utilizing individual and family perspective. Focus is development of sexual behavior, relationships, and gender characteristics from infancy to late life.

HDFS-264 Child Guidance (3 cr.)

Fall and Spring

Developmentally appropriate principles and strategies for child guidance. Systems perspective, positive discipline, theoretical approaches, current topics, developing a personal/eclectic approach.

Prerequisites: take HDFS-124.

HDFS-270 Seminar On Self-Growth (3 cr.)

Fall and Spring

Course in personal growth and self-management. A starting point in working with families in the diverse world is to begin with an understanding of self. Learning strategies are aimed at bridging theory with real life experiences.

HDFS-275 Race Matters: Interdisciplinary Investigations (3 cr.)

ESA

Fall and Spring

Cognitive and emotional skills for race learning. Types of racism. How to talk about race. Exploring race in our lives: relationships, media, education, politics. Anti-racist strategies.

HDFS-310 Family Stress, Coping and Adaptation (1 cr.)

Fall, Spring and Summer

Impact of family development and stress on individual and family well-being.

HDFS-313 Parent Education and Involvement (2 cr.)

Fall and Spring

Parent groups: training of leaders, survey of literature.

HDFS-320 Divorced, Single Parent and Remarried Family (2 cr.)

Fall and Spring

Trends and issues in divorce, single parenting and remarriage related to effects on adults, children and society.

HDFS-325 Human Development: Middle Childhood and Adolescence (3 cr.)

Fall and Spring

Empirical study of physical, intellectual, social and emotional development of children.

HDFS-330 Human Development: Early and Middle Adulthood (3 cr.)

Fall and Spring

Study of adults in the family context during the early and middle years.

Prerequisites: take HDFS-215.

HDFS-332 Death and Bereavement (3 cr.)

Spring and Summer

Significance of death and bereavement for the American culture, individual and family. Special consideration given to major tasks of grieving for children and adults.

HDFS-335 Seminar: Culturally Diverse Individuals and Families (2 cr.)

ESA GLP

Fall and Spring

Study of cultural, ethnic, racial and economic influences on individuals and families in the United States. Emphasis on knowledge and skills to improve human relations in settings serving individuals and families.

HDFS-336 Experience: Developing Cultural Competence (2 cr.)

ESA

Fall and Spring

Fifty hours experience interacting with individuals and/or families of an ethnic minority group whose background the student does not share; and/or foreign-born persons of color, persons with disabilities, sexual minorities and persons of various ages and socio-economic groups.

HDFS-340 Human Development: Late Adulthood (3 cr.)

Fall and Spring

Survey of the field of gerontology focusing on what it means to grow old in the United States from a systemic perspective. Multicultural attitudes toward aging; the psychological, physical, social and economic needs and problems of the older population are addressed. Consideration will be given to the personal, familial, environmental and social resources of the older population.

Prerequisites: take HDFS-215.

HDFS-341 Family Caregiving to Dependent Elders (1 cr.)

Fall and Spring

Unique challenges confronting adult children who provide care to aging parents. Government, agency, workplace and family policies and practices promoting and/or undermining family strengths and well-being.

HDFS-345 Health Care Dilemmas and Decisions for Families (3 cr.)

Fall and Spring

Multidisciplinary study of bioethical issues facing U.S. families, including end-of-life decision making, reproductive technologies, and distributive justice.

HDFS-347 Ethics in Aging (2 cr.)

Ethical issues related to aging emerging from advances in medicine and medical technology from a multidisciplinary perspective.

HDFS-350 Women's Relationships in Later Life (3 cr.)

Women's experiences in later life. Impact of race, culture, class, sexual orientation upon aging. Images of aging women in contemporary literature and the media. Older women's experiences in familial relationships and friendships. Junior level or higher.

HDFS-352 Sexual Minority Individuals and Families (2 cr.)

Contextual knowledge and understanding of sexual minority individuals and families.

HDFS-360 Work and Family Issues (3 cr.)

ESC

Fall and Spring

Effects of employment and family careers and varying patterns of combining work and family.

HDFS-364 Sibling Relationships (3 cr.)

Spring

Sibling relationships across the life course, examining the issues, processes and dynamics affecting these bonds.

HDFS-365 Family Resource Management (3 cr.)

Fall and Spring

Examination of individual and family use of resources to attain goals. Exploration of methods for working with individuals and families regarding family resource management. Identification of socio-cultural influence of poverty and decision making.

Prerequisites: take HDFS-115.

HDFS-375 Grantsmanship for Nonprofits (1-2 cr.)

Explore the availability of foundation grant money for nonprofit organizations. Designed to give the beginning grant writer an overview of grant purposes, foundation funding sources, proposal development and writing.

HDFS-395 Special Topics in Human Development (1-2 cr.)

Special topics in human development; repeatable for different topics. Junior level or higher. **R**

HDFS-420 Family Research and Methodology (3 cr.)

Fall and Spring

Analysis of family theory, research methodology and selected topics in family relations.

Prerequisites: take HDFS-115 HDFS-215.

HDFS-423 Spirituality Across the Lifespan (2 cr.)

Seminar discussion of autobiographical and biographical accounts of individual's spiritual experiences, beliefs and spiritual development over the life cycle. Junior level or higher.

HDFS-426 Special Topics in the Study of Family Life (1-3 cr.)

Family life programs and literature; individual study of problems of personal or professional interest.

HDFS-440 Child and Family Law (3 cr.)

Spring

Legal issues affecting children and families.

Prerequisites: take HDFS-215.

HDFS-442 Geriatric Functional Assessment (4 cr.)

Fall

Multi-disciplinary assessment applied to elderly at critical transition points. Assessment of social and economic status, functional status (activities of daily living and instrumental activities of daily living), mental health, and environmental characteristics. Explore various measurement instruments. Background check required.

Prerequisites: take HDFS-340.

HDFS-450 Family Policy (3 cr.)

Fall and Spring

Content, methods and process of assessing impact of public policy on children and families.

Prerequisites: take HDFS-215.

HDFS-454 Suicide and the Family: Family and Community Intervention (1 cr.)

Analysis of attempted and completed suicides from an interdisciplinary perspective.

Forms of intervention, with emphasis upon family therapy, are compared, contrasted, and evaluated for suitability.

Prerequisites: take HDFS-215.

HDFS-456 Abuse and the Family (3 cr.)

Fall and Spring

Definition and analysis of types of abuse in family context. Interrelationship of victims, perpetrators, other family members, helping professionals, social context. Risk factors, effects, reporting and recovery.

Prerequisites: take HDFS-215.

HDFS-490 Professional Issues: Human Development and Family Studies (2 cr.)

Fall and Spring

Issues related to professional development in areas of human development and family studies. 2.5 GPA in professional core. HDFS majors only.

HDFS-491 Practicum in Human Development and Family Studies(4-8 cr.)

Fall, Spring and Summer

Practicum experience in human development and family studies. Student will be placed in community agency or organization and supervised by site supervisor and university supervisor. 2.5 GPA in Professional Core. Consent of Program Director.

Prerequisites: take HDFS-490. **R**

HDFS-497 Field Experience in Human Development and Family Studies (2 cr.)

Field experience related to human development and family studies skills and knowledge used in teaching wage-earning courses at secondary level.

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Revised: April 2010

HIST History

HIST-120 Early United States History 3 cr.

HUM HIST ESB Fall, Spring and Summer

U.S. history to 1865: political, economic and social forces that have shaped the nation to close of Civil War.

HIST-121 Modern United States History 3 cr.

HUM HIST ESB Fall, Spring and Summer

U.S. history since 1865: political, economic and social forces that have shaped the nation since close of Civil War.

HIST-140 Western Civilization 3 cr.

HUM HIST Fall and Spring

Survey of Western civilization along the Nile, the Fertile Crescent, through Greece, Rome, the Middle Ages, the Renaissance, and the Reformation.

HIST-141 Western Civilization 3 cr.

HUM HIST Fall and Spring

Survey of Western civilization from Reformation to present.

HIST-210 Modern World 3 cr.

HUM HIST Fall, Spring and Summer

Modern trends in terms of historical backgrounds as frame of reference for interpreting modern world.

HIST-311 Women and War: A Global Perspective in the Modern Era 3 cr.

HUM HIST GLP Spring

Examines the lives and roles of women in conflicts from 1789 to the present during wars in Europe, Africa, Asia and Latin America, with minor focus on the United States.

HIST-321 United States Women's History 3 cr.

HUM HIST ESB Fall and Spring

Political, economic, and social contributions of women to United States history. Examination of the historical interaction of ethnicity, class, and sexual orientation with gender. Strong focus on the changes in gender expectations and the historical creation of stereotypes and inequality.

HIST-322 African-American History 3 cr.

HUM HIST ESA Fall and Spring

Social, cultural, economic and political history of African-Americans, with special focus on the United States.

HIST-330 History of World War II 3 cr.

HUM HIST Fall and Spring Semesters

Causes, conduct and effects of World War II.

HIST-335 World War II: An Ethnic and Global Perspective 3 cr.

HUM HIST ESB GLP Spring and Summer

Examines World War II through exploration of ethnicity and race both in the United States and abroad. Sophomore standing.

HIST-350 History of the Vietnam War 3 cr.

HUM HIST ESC Fall and Spring

American role in the Vietnam War, particularly goals, objectives and dilemmas faced by American policymakers; roles and contributions of American men and women in the military and in civilian society; development and impact of the anti-war movement; and long-term consequences of the war on American culture and society.

HIST-360 Asian History 3 cr.

HUM HIST Fall and Spring

Survey of political, social, religious and economic history of Asia, India, China, Japan and the Philippines in modern world.

HIST-380 Latin American History 3 cr.

HUM HIST

Political, social and economic history of Middle and South America, pre-Columbian to present.

HIST-460 History Methods 2 cr.

Fall and Spring

Historiography and application of the historical method, including the study of teaching methods, instructional materials, and evaluation techniques. History minors only.

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Revised: March 2008

HLTED Health Education

HLTED-360 Personal Health and Fitness (3 cr.)

Spring and Summer

Analysis of consequences of individual decisions and lifestyle choices related to personal health and well being.

HLTED-375 Methods in Health Education (2 cr.)

Fall

Teaching methods related to the content of elementary and secondary school health curriculum. Individual presentations and teaching of health lessons.

HLTED-376 Organization and Administration of Health Education (3 cr.)

Spring and Summer

Planning, promoting, and implementing comprehensive health education programs at the elementary, middle, and secondary levels. Needs assessment; curriculum development and coordination; public relations; and the development of cooperative relationships with parents, private business, and voluntary and community health agencies.

HLTED-485 Health Education Student Teaching (2 cr.)

Fall and Spring

Directed teaching and community experiences in selected off-campus schools.

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Revised: January 2007

HLTH Health

HLTH-101 Discovering Wellness 1 cr.

HPE HLTH Fall and Spring Semesters

Introduction to the components and benefits of high level wellness; includes self-assessment and the development of an action plan for lifetime wellness.

HLTH-340 ARC Standard First Aid and Personal Safety 2 cr.

Fall, WinTerm, Spring and Summer

American Red Cross certification in standard first aid and personal safety; increase personal safety and accident-prevention knowledge; learn to administer emergency first aid to self or others. \$

HLTH-346 ARC Cardiopulmonary Resuscitation .5 cr.

Fall, Spring and Summer

Techniques of basic life support: Recognizing respiratory and/or cardiac arrest and properly administering cardiopulmonary resuscitation (CPR) to maintain life. Successful completion results in 1-year certification in ARC basic life support course in CPR.

HLTH-350 Prevention and Care of Athletic Injuries 3 cr.

Spring Semester

Provides prospective physical education and/or coaching professional with basic understanding of prevention, treatment and care of athletic injuries.

Prerequisites: HLTH-340; and BIO-142, BIO-134 or HLTH-355.

HLTH-355 Kinesiology 3 cr.

Spring Semester

Body movements and principles affecting them.

Prerequisite: BIO-132.

HLTH-365 Physiology of Exercise 3 cr.

Spring Semester

Effects of exercise on sports participants: heat stress, body composition, nutrition, cardiovascular function, energy expenditure, respiratory mechanics and ventilation factors.

Prerequisite: BIO-132.

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Revised: March 2010

HT Hospitality and Tourism

HT-100 Introduction to Hospitality 2 cr.

GLP

Exploration of the major components and organizational structure of the hospitality industry. Presents historical development opportunities and current trends. Stresses the importance and relationship of education and work experience to career success.

Examination of the key components in various industry sectors including food service, lodging, tourism, gaming, and property management,

HT-121 Principles of Foodservice Operations 2 cr.

Professional segments of foodservice operations: history, types of operations, functions, facilities design, equipment, basic cooking principles, dining room service, and management concepts.

HT-135 Lodging Systems 3 cr.

Examination of the basic skills needed in a lodging facility. Specific roles, functions, and policies pertaining to the Rooms Division.

HT-140 Principles of Tourism 3 cr.

GLP

Scope, structure, and function of tourism and as a industry and a sociocultural phenomenon; industry components and the importance of maximizing benefits and costs to its stakeholders.

HT-150 Institutional Food Purchasing 2 cr.

Methods of large-quantity food purchasing: determining standards, specific needs, and industrial offerings; formulating specifications, buying procedures and controls.

HT-200 Hospitality Organization Management 3 cr.

Management principles for hotels and restaurants, supervisory development and training, labor relations, managerial interpretation, and evaluation of current systems and procedures. Prerequisites: take HT-100.

HT-240 Tourism Goods and Services 3 cr.

GLP

Analysis of tourism goods and services in relationship to future patterns of supply and demand. Prerequisites: take HT-140 ECON-210.

HT-315 Gaming Management 3 cr.

Overview of casino gaming operations in the hospitality and tourism industry from a global and local perspective. Must be 18 years or older. \$

HT-316 Casino Operations Management 3 cr.

Functions and transactions associated with the gaming operations environment within a resort casino. Must be 18 years or older.

HT-317 Psychosocial Issues in Gaming 3 cr.

A hospitality management and societal perspective of the pros and cons of gambling entertainment. Must be 18 years or older.

HT-323 Food Service Equipment 2 cr.

Factors affecting design, selection, physical facilities, and utilities involved in foodservice equipment.

HT-324 Quantity Food Production 4 cr.

Quantity food production management concepts: menu planning, work production schedules, production analysis, food and labor cost controls, sales, projections, crisis, and service management techniques; lab work in quantity food production and service; recipe development, and introduction to productivity and work simplification concepts.

Prerequisites:

BS HTRM students: Take FN-115, HT-121, and FN-215;

BS FST students: Take FN-124

BS Dietetics students: Take FN-240

HT-326 Introduction To Wines and Spirits 3 cr.

GLP

Applied and historical knowledge of wines and spirits from different regions of the world; emphasis on preparation, selection, accompaniment with food, basic cost control analysis, and service. Must Be 21 years or older. \$

HT-330 Resort Planning and Operation 3 cr.

Planning and operation of individual destination resorts. Analysis of resort concept, history, master planning, environmental impact, facility design, maintenance and operational management. Prerequisites: take HT-430. \$

HT-335 Lodging Operations Management 3 cr.

Investigation of supervisory roles in lodging management, with an emphasis on the importance of financial statements and their interpretation, human resources and productivity, and providing quality hospitality services within all types of lodging facilities.

Prerequisites: take HT-135.

HT-340 Development of Tourism Attractions 3 cr.

Diversified natural and man-made background tourism elements (BTE): preservation and incorporation of concepts for development of tourism destinations. Prerequisites: take HT-140 and ECON-210.

HT-344 Hospitality and Tourism Marketing and Sales 3 cr.

Analysis of marketing strategies and sales techniques, promotional tools, and research for hospitality and tourism development. Must be junior level or higher.

HT-350 Hospitality Diversity Management 3 cr.

ESB

Analysis of multiculturalism and diversity in the hotel, restaurant and tourism workplace.

Managing a diverse workforce in a logical and meaningful manner through understanding self perspectives, group identities, and workplace strategies.

Prerequisites: Junior level or higher.

HT-351 Hospitality Convention/Meeting Planning 3 cr.

The roles and responsibilities of professional hospitality meeting planners and hotel convention sales/service managers are examined for purposes of planning or hosting a major convention, or a corporate, association, or special group meeting event.

Prerequisites: take HT-344.

HT-352 Club Management 3 cr.

Managing a membership, city, health and fitness, military, golf, or other social or recreation club. Junior level or higher.

HT-353 Computer Systems for Food Service 3 cr.

Functions of computers in a variety of food service operations with specific emphasis on spreadsheets and food service application software. Experience using state-of-the-art technology and microcomputers.

Prerequisites: take HT-324 and HT-362.

HT-360 Tourism for Persons with Disabilities 2 cr.

Strategies to accommodate the inclusive and special hospitality and travel preferences of persons with disabilities within the hospitality and tourism industry.

HT-362 Foodservice Finance and Cost Control 3 cr.

The use of financial techniques and systems to control food, beverage, and labor costs in hospitality food service operations. Prerequisites: take BUACT-206.

HT-374 Principles of Timeshare Management 3 cr.

Introduction to timeshare management; similarities and differences between timeshare operations and other hospitality businesses. Tourism influences on timeshare development.

HT-383 Yield Management 3 cr.

Investigation of the use of computer technology in the lodging industry for revenue planning, scheduling and performance evaluation. Specialized software will be used to analyze and evaluate hotel performance. Prerequisites: take HT-135, HT-200, and STAT-130.

HT-418 Casino Tourism 3 cr.

Research/travel and visits with Chambers of Commerce, casino management personnel, and governing entities to study economic, sociological and cultural impacts of gaming within a particular global or local region. Must be 18 years or older and junior level or higher. \$

HT-423 Wine and Food Pairing 4 cr.

GLP

Matching wine and food from different parts of the world using flavors, textures, and components present in food and wine as complementing strategies. Emphasis on menu planning, food preparation, cooking methods and wine tasting with foods. Prerequisites: take HT-326. \$

HT-424 Catering 3 cr.

Theory and application of operational and managerial principles for on- or off-premise catering for special events. Junior level or higher. Prerequisites: take FN-124 and FN-260.

HT-426 Restaurant Operational Management 4 cr.

Application of the principles of food and beverage management in full service restaurants existing as independent units or as units within a commercial/ noncommercial foodservice operation. The course will emphasize fine dining, fine cuisine and control systems.

Prerequisites: take HT-324.

HT-427 Professionalism: Social and Work Environment 1 cr.

The application of necessary skills to be professional in social and work environments with emphasis on professional dress, proper dining etiquette, business conversation, and job search techniques. Non-HRTM majors only \$

HT-430 Lodging Administration 3 cr.

Analysis of theories, principles and techniques of lodging management; problems and issues encountered by management in providing quality service within cost-efficient organization.

Senior level or higher. Prerequisites: take HT-383.

HT-440 Sociocultural Systems of Tourism 3 cr.

Various psychosocial dimensions of tourism: motivation, development, community and conflict as related to consumer-tourists, tourists and residents. Senior level or higher.

HT-442 Trade Show Management 3 cr.

Investigate and apply the processes and procedures to plan and manage a trade show from a developer and user perspective. Define the processes to select and develop, arrange for site and support services leading to a profitable trade show.

Prerequisites: take HT-351.

HT-445 Event Management 3 cr.

Planning, organizing and the management of events will be investigated for the hospitality, tourism and golf industries. Emphasis is placed on the design, internal management systems and post event evaluation.

HT-447 International Convention and Meeting Management 3 cr.

Investigate the process and procedures to plan for meetings in other countries.

Prerequisites: take HT-351.

HT-449 Cooperative Education/Internship 1-6 cr.

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one. Prerequisites: must have 60 credits completed. R

HT-450 Food Service Administration 3 cr.

Organization and administration of institutional foodservice systems, personnel selection and training, cost control and problems of supervision.

HT-452 Hospitality Professionalism 2 cr.

Prepare hotel, restaurant and tourism students as professionals in a global community. Role-play

emphasis on professional dress, dining etiquette, culture and business conversation, job search and placement techniques. HRTM and Property Management majors only.

HT-454 Security and Risk Management For the Hospitality Industry 3 cr.

Advanced investigation of security and risk management within hospitality/service industries. \$

HT-457 Hospitality Management Strategies 3 cr.

Comparison and synthesis of hospitality management strategies; concepts and theories in relationship to long-term hospitality business goals and objectives. Capstone course for senior-level hospitality and tourism students. Senior Level Or Higher. Prerequisites: take HT-362.

HT-460 Hospitality Industry Law and Liability 3 cr.

Laws applicable to ownership and operation of inns, hotels, motels, restaurants and other places of public hospitality.

HT-461 Hospitality Employee Relations 3 cr.

History and legal strategies and tactics in dealing with hospitality employees in both union and non-union settings.

HT-462 Hospitality -- Financial Analysis/Budget/ Forecasting 3 cr.

Application of accounting and financial analysis techniques to managerial decision-making in hospitality industry. Prerequisites: take BUACT-206, HT-361, and HT-362.

HT-481 Special Problems in Hospitality and Tourism 1-3 cr. R

HT-492 Seminar in Hospitality and Tourism Management 3 cr.

An advanced course in management. The student will select and research a current topic of importance to the industry. R \$

HT-498 Hospitality and Tourism Field Experience 1-2 cr.

Off-campus work and study in an approved position to better understand the challenges and potentials of various careers in the hospitality area. Must have 90 credits completed.

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ICT Information Communication Technologies

ICT-103 Information and Communication Technologies (3 cr.)

TECH GLP

Fall, Spring and Summer

Examine the impacts of information and communication technologies on individuals and the global society and how its utilization affects personal, educational and professional growth.

ICT-304 Communications and Information Systems (1-3 cr.)

Fall, Spring and Summer

Overview of the communications industry. Use of systems to create, process, transmit, receive and evaluate information.

Prerequisite: take ICT-103.

ICT-305 Office Automation Technology (3 cr.)

Fall, Spring and Summer

Automation information concepts and technology use in office including communication, storage, and retrieval systems. Emphasis on cost effective selection and implementation problems.

Prerequisite: take ICT-103.

ICT-309 Collaborative Computing (3 cr.)

History application, design and analysis of collaborative computing.

Prerequisites: take ICT-103.

ICT-311 Information and Communication Technologies Analytics (3 cr.)

Determine the value of electronic information and communications. Developing metrics, determining acquisition, conversion, and retention on information and communication technologies.

Prerequisites: take ICT-103.

ICT-401 Information Technology Policy and Audit (3 cr.)

GLP

Fall and Spring

Information technology policy, regulatory and audit issues, international standards, and internal security strategies.

Prerequisites: take ICT-103 and BUACT-206.

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Revised: March 2010

INMGT Industrial Management

INMGT-100 Introduction To Management (1 cr.)

Fall

Survey of management focusing on changes, challenges, opportunities, and management's roles in business and industry. Management program advisement, course sequence, and job opportunities. B.S. in Management and B.S. in Information and Communication Technologies majors only.

INMGT-120 Quality Concepts (3 cr.)

Fall, Spring and Summer

An introduction to quality, quality systems, and quality management through a survey of the various philosophies, principles, techniques and procedures used by various organizations and/or managers to assure customer satisfaction of product and/or service.

INMGT-200 Production and Operations Management (3 cr.)

Fall, Spring and Summer

A broad analytical "systems" viewpoint is used to develop competency in management decision-making and problem solving in an operations setting.

Prerequisites: take STAT-130, STAT-330 or STAT-320.

INMGT-210 Service Operations Management (3 cr.)

Fall and Spring

Examination of the environment in which services operate. The design of service delivery systems is addressed from the perspective of both customer participation and operations efficiency.

INMGT-220 Service Quality Assurance (3 cr.)

Fall and Spring

Determination of goals, management systems, and implementation methodologies for all aspects of service organization quality assurance.

INMGT-298 Field Experience (1-2 cr.)

Fall, Spring and Summer

Off-campus work and study in an approved position to better understand business and industrial concepts and practices. **R**

INMGT-300 Engineering Economy (2-3 cr.)

Fall, Spring and Summer

Source and application of funds: cost control, valuation, depreciation, replacement theory and taxation.

INMGT-301 Seminar (1-2 cr.)

(Title will reflect specific business or management content.) Current topics in business and industrial management to meet specific needs of students enrolled. **R**

INMGT-303 Introduction to Leadership Praxis (1 cr.)

Assessment of Leadership skills/characteristics, leading to understanding of integrative leadership, and including increased capacity for civic engagement, social justice action, and ethical decision-making.

INMGT-305 Resource Planning and Materials Management (3 cr.)

Fall and Spring

Principles and techniques for planning and managing materials and resources within organizations, and throughout a supply chain. Topics include: resource and material planning, forecasting, master planning, materials requirements planning, capacity management, purchasing, inventory management, distribution options, supply chain management and various operational management techniques.

Prerequisites: take INMGT-200, and take STAT-130 or STAT-320.

INMGT-310 Production Processing (3 cr.)

Fall and Spring

Production processes, especially product design as related to economic production; factors that influence choice and sequence of process to obtain end product. Prerequisites: take INMGT-200.

INMGT-314 Industrial Enterprise Practicum (3 cr.)

Fall, Spring and Summer

Organization and operation of an industrial company; election, designing, production planning, production, marketing and distribution of a product.

INMGT-320 Quality Tools (3 cr.)

Fall, Spring and Summer

Practical and statistical quality control in design and use of quality assurance programs: quality engineering, manufacturing quality assurance and product quality assurance.

Prerequisites: take STAT-130.

INMGT-325 Quality Management (3 cr.)

Fall, Spring and Summer

Provides the managerial and technical knowledge necessary to prepare, document, manage, and evaluate quality systems from beginning design through system operation and post-delivery customer services within a product or service environment.

Prerequisites: take INMGT-200 or INMGT-210 or INMGT-335.

INMGT-335 Lean Manufacturing Systems (4 cr.)

Fall

Introduction to production/operations management and lean manufacturing system design for engineers. Emphasis is given to analysis and design of production systems, facility layout, and globalization. Prerequisites: take STAT-330.

INMGT-350 Facilities Planning (3 cr.)

Spring

Study of facilities location, structure, and planning for efficient layout and material handling systems. Prerequisites: take INMGT-200.

INMGT-365 Project Management (3 cr.)

Fall, Spring and Summer

Planning, scheduling, and control of technical projects. Topics covered include activity

identification, network diagrams, scheduling, PERT/CPM, cost analysis, resource management, and computer control.

INMGT-370 Industrial Management Issues Seminar (2 cr.)

Fall and Spring

Current and emerging trends and issues in industrial management for students with a technical background who are preparing and planning for a career in leadership and management positions. 12 earned UW-Stout credits.

INMGT-400 Organizational Leadership (3 cr.)

ESC Fall, Spring and Summer

Overview of the leader's role in accomplishing organizational objectives through the management of human resources. Concepts of organizational and individual behavior serve as a foundation for the development of such leadership skills as communication, motivation, initiating change, team building, delegation, building credibility, and conflict management. Senior level or higher.

INMGT-401 Management Consulting (2 cr.)

Summer

The organization and analysis of major elements of the consulting profession in management: 1) subject matter expertise, 2) marketing, 3) organizational development, 4) business principles for consultants and 5) communication skills; synthesis of the interdependent relationship of the major elements in the consultation process.

INMGT-403 Leadership Praxis (1 cr.)

Synthesis of Leadership skills/characteristics, leading to understanding of integrative leadership, and including increased capacity for civic engagement, social justice action, and ethical decision-making.

Prerequisites: Take INMGT-303

INMGT-405 Resource Planning and Materials Management Practicum (3 cr.)

Fall and Spring

Provides students with specific skills in managerial techniques for planning, scheduling and controlling resources in manufacturing and service organizations. Focuses on the first two of the five required APICS exams that lead to certification as a Certified in Production and Inventory Manager (CPIM).

Prerequisites: take INMGT-305.

INMGT-410 Six Sigma Quality Improvement Methods (3 cr.)

Fall and Spring

Overview of Six Sigma quality improvement applications. Application of scientific methods to improve quality of products, service, processes, and management systems.

Prerequisites: take INMGT-320, INMGT-325.

INMGT-414 Leadership Practicum (1 cr.)

Practical application of leadership principles in an enterprise.

Prerequisites: Concurrent enrollment in INMGT-314, consent of instructor.

INMGT-415 Inclusivity in Leadership (3 cr.)

ESB Winterterm

An examination of leadership dynamics for, but not limited to, women, people of color and

other underrepresented populations including approaches to leading, communicating, and developing inclusive organizations. Prerequisites: take 1 option: take SOC-110 and INMGT-400, or take SOC-110 and BUMGT-304.

INMGT-416 People Process Culture (3 cr.)

Fall and Spring

A study of high performing people process culture organizations integrating sociology, applied psychology, and organization behavior subject matter areas.

Prerequisites: take BUMGT-304, and take PSYC-382 or INMGT-400.

INMGT-420 Quality Assurance – Practicum (3 cr.)

Fall and Spring

Application of principles and techniques learned in INMGT-320, as part of professional semester/ manufacturing laboratory. Prerequisites: take INMGT-320, INMGT-325.

INMGT-422 Quality Engineering (3 cr.)

Fall and Spring

Practical and statistical engineering methods to improve quality and design in a manufacturing environment.

Prerequisites: take INMGT-200, STAT-330; minimum grade C.

INMGT-425 Planned Experimentation for Quality Improvement (3 cr.)

Fall

Quality improvement through planned experimentation that focuses on product realization activities which consist of new product design and formulation, manufacturing process development and improvement.

Prerequisites: take INMGT-422.

INMGT-430 Employee Involvements: Work Teams (2 cr.)

Summer

Background and history of employee involvement, teams as a method of employee involvement, analysis of the advantages and disadvantages of different team structures and the planning processes used to implement team structures, analysis of situational variables used to help design the best team approach for an organization, the support systems needed to maintain teams, phases of team development, facilitation skills, and team problem-solving methods. Senior level or higher.

INMGT-440 Lean Enterprise (3 cr.)

Fall and Spring

Principles of lean techniques, justification of lean systems, how lean systems are scheduled, and cost analysis of a lean environment.

Prerequisites: INMGT-200

INMGT-450 Maintenance Management (3 cr.)

Fall

Organization and management of fixed asset maintenance systems including organizational structures, work control systems, computerized maintenance management systems, preventative and predictive maintenance, energy systems analysis and human resource utilization.

INMGT-460 Industrial Management Capstone (3 cr.)

Summer

Principles and methods of analyzing and solving industrial problems; application through case studies, management games and special problems. Emphasis on emerging techniques and issues in industry. Senior level or higher.

INMGT-462 Global Manufacturing Study Tour (2-3 cr.)

GLP Summer

Visit global sites to understand the current state of product design, manufacturing, and distribution in both developed and developing countries. Learn how to develop supplier, manufacturing, and distribution systems in a global setting. Senior Level Or Higher.

INMGT-475 Advanced Project Management (3 cr.)

Fall and Spring

Advanced planning, control, and leadership of technical projects and programs. Topics covered include: project and program justification, project management maturity and methods, multiple project or portfolio management, project management in multinational cultures, virtual project teams, requirements definition, and outsourcing.

Prerequisites: take INMGT-365.

INMGT-480 Production Systems Planning (2 cr.)

Fall and Spring

Plan of manufacturing systems utilizing contemporary techniques, such as: employee involvement, value analysis, compatibility with facilities and equipment, reliability, material requirements, scheduling, and risk control. Prerequisites: take INMGT-422.

INMGT-489 Business and Industrial Intern (1-8 cr.)

Fall, Spring and Summer

Off-campus work and study in student's area of concentration; approved salaried position with cooperating company for a semester or summer session. Junior level or higher. **R**

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Revised: July 2010

ITM Information Technology Management

ITM-133 Networking Fundamentals I (3 cr.)

Internet protocol addressing; routing and switching fundamentals.

ITM-134 Networking Fundamentals II (3 cr.)

Advanced addressing, switched networks, routing protocols, access lists and wide area networks. Prerequisites: take ITM-133.

ITM-300 Workshop (1-3 cr.)

Fall, Spring and Summer

Special topics in graphic communications, providing hands on or experiential learning activities. Specific content and title to reflect the topic of the workshop. **R**

ITM-308 Convergence Technologies (3 cr.)

Spring

Creation of single networks that support many different types of traffic: data, audio, video, and interactive multimedia. Planning physical design and installation of a telephone and converged system, requirements of a converged network, and what makes convergence.

Prerequisites: take ICT-103.

ITM-330 IP Telephony Design and Implementation (3 cr.)

Internet Protocol (IP) Telephony components and protocols examination; converged network interpretation; analog and digital voice interface configuration; quality of service configuration; single and multi-site IP telephony deployment; IP telephony features implementation.

Prerequisites: take ITM-441.

ITM-340 Cisco Networking Academy Program: Instructor Fast Track (2 cr.)

Summer

Fast-track option to prepare the instructor for teaching in the Cisco Networking Academic Program, meeting requirements for the Cisco Certified Academic Instructor (CCAI).

Instructor's consent required. Must be Cisco CCNA certified.

ITM-341 Cisco Networking Academy Program: Instructor I (4 cr.)

First in a four-course sequence preparing instructors for teaching in the Cisco Networking Academy Program, meeting requirements for the Cisco Certified Academic Instructor (CCAI), and preparing for the Cisco Certified Network Associate (CCNA) examination.

Instructor's consent required.

ITM-342 Cisco Networking Academy Program: Instructor II (3 cr.)

Second in a four-course sequence preparing instructors for teaching in the Cisco Networking Academy Program, meeting requirements for the Cisco Certified Academic Instructor (CCAI), and preparing for the Cisco Certified Network Associate (CCNA) examination.

Prerequisites: take ITM-341.

ITM-343 Cisco Networking Academy Program: Instructor III (2 cr.)

Third in a four-course sequence preparing instructors for teaching in the Cisco Networking Academy Program, meeting requirements for the Cisco Certified Academic Instructor (CCAI), and preparing for the Cisco Certified Network Associate (CCNA) examination. Prerequisites: take ITM-342.

ITM-344 Cisco Networking Academy Program: Instructor IV (2 cr.)

Fourth in a four-course sequence preparing instructors for teaching in the Cisco Networking Academy Program, meeting requirements for the Cisco Certified Academic Instructor (CCAI), and preparing for the Cisco Certified Network Associate (CCNA) examination.

Prerequisites: take ITM-343.

ITM-361 Workstation and Server (3 cr.)

Installing, configuring, and administering Microsoft Windows utilizing the current commercial version of the product for both workstations and servers. Helps prepare students for two of the Microsoft Certified Systems Engineer (MCSE) certification examinations.

ITM-362 Server Applications (3 cr.)

Summer

Installing, configuring, and administering server applications using multiple industry standard operating systems. Server applications may include World Wide Web, FTP, software updates, mail, file sharing, DNS, DHCP, and terminal services.

Prerequisites: take ITM-361.

ITM-363 Directory Services (3 cr.)

Summer

Provides knowledge and skills to plan, implement, and troubleshoot directory services. Design and implement a secure network. Focuses on a directory services environment, including forest and domain structure, domain name system, site topology and replication, organizational unit structure, and delegation of administrations.

Prerequisites: take ITM-361.

ITM-382 Network Systems Design (3 cr.)

Spring

Concepts from communication networks. LAN, MAN, WAN networks. Introduction to LAN switching, ATM and virtual LANS. Designing and integration of LAN switching virtual networking and ATM into today's networks. Telecommunication Systems or Information Technology Management majors only.

ITM-383 Introduction To Network Security (3 cr.)

Winter, Summer

Design, implementation and management of network security in multilayered computer networks. Identifying and evaluating network security threats; internet, intranet, and extranet security issues. Must be Cisco CCNA certified.

ITM-391 Wireless Systems (3 cr.)

Spring

Wireless networking combining Radio Frequency (RF) and Local Area Networking (LAN) technology fundamentals. Basic concepts and building blocks or the convergence between

RF and networking technologies. Technologies and tasks vital to installing, managing, and supporting wireless networks.

ITM-441 Scalable Internetworks (3 cr.)

One of three core courses for preparation for the Cisco CCNP and CCDP professional certification. Students will learn how to build scalable routable networks. Students are required to pass the associated Cisco certification examination. Must be Cisco CCNA certified.

ITM-442 Remote Access Networks (3 cr.)

Fall and Spring

One of three core courses for preparation for the Cisco CCNP and CCDP professional certification. Students will learn how to build remote access networks to interconnect central sites to branch offices and home offices. Students are required to pass the associated Cisco certification examination.

Prerequisites: take ITM-441.

ITM-443 Multi-Layer Switched Networks (3 cr.)

Fall and Spring

One of three core courses for preparation for the Cisco CCNP and CCDP professional certification. Build multi-layer switched networks. Students are required to pass the associated Cisco certification examination.

Prerequisites: take ITM-441.

ITM-444 Internetwork Troubleshooting (3 cr.)

Fall and Spring

Specialization course for the Cisco CCNP professional certification. Students will learn to troubleshoot internetworks. Students are required to pass the associated Cisco certification examination.

Prerequisites: take ITM-441, ITM-442 and ITM-443.

ITM-445 Internetwork Design (3 cr.)

Fall and Spring

Specialization course for the Cisco CCNP professional certification. Students will learn to design internetwork solutions. Students are required to pass the associated Cisco certification examination.

Prerequisites: take ITM-441, ITM-442 and ITM-443.

ITM-450 Enterprise Solutions and Unified Communications (3 cr.)

Enterprise-level network utilizing the technologies and methods that are current industry best practices. Provide enterprise network solutions and unified communications to an organization while maintaining quality of service. New and emerging network technologies for an enterprise network.

Prerequisites: take ITM-330, ITM-363, and ITM-444.

ITM-481 Telecommunications Systems Administration (3 cr.)

Fall

Issues and concerns required to manage telecommunications networks and contemporary problems.

ITM-484 Advanced Network Security and Auditing (3 cr.)

Network infrastructure, operating systems, data centers, and virtualized environment security and auditing. Information technology government and industry regulation compliance.

Prerequisites: ITM-363, ITM-383, ITM-443

ITM-490 Information Technology Management Capstone (3 cr.)

Fall and Spring

Work with an outside organization in a team environment utilizing concepts of design, brainstorming, problem solving, team work, creativity, evaluation, and present findings in oral and written formats.

Prerequisites: take ITM-444

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Revised: March 2010

LIT Literature

LIT-203 American Poets (3 cr.)

HUM/LIT ESB

Contemporary American writers of narrative, dramatic and lyric poetry.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-205 The Short Story (3 cr.)

HUM/LIT Fall

Style, structure, history and development of short story as a literary form.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-208 Fiction Into Film (3 cr.)

HUM/LIT ESC Fall and Spring

Selected works of literature and their film adaptations. Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-230 American Cinema (3 cr.)

HUM/LIT ESB

A literary and cultural examination of the development of cinema in the United States with special attention to the evolution of the cinematic treatment of non-dominant cultural groups.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-255 Recent World Literature (3 cr.)

HUM/LIT GLP

Selected readings in Contemporary Literature in Translation.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-260 Modern American Literature (3 cr.)

HUM/LIT ESB

Fall, Spring and Summer

Selected poetry, prose and drama produced since World War I.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-272 Women Writers (3 cr.)

HUM/LIT GLP ESB Fall

Study of representative American and international women writers within the tradition of feminist literary theory.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-273 American Multicultural Literature (3 cr.)

HUM/LIT ESA Fall, Spring and Summer

American multicultural literature, focusing on Hispanic, African, Asian, and Native American writers.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-275 Environmental Literature (3 cr.)

HUM/LIT ESB

Literary and critical analysis of environmentalist discourses. Exploration of literary works that treat land use and co-existence among life forms.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-280 Best-Sellers (3 cr.)

HUM/LIT Fall and Spring

Fiction and non-fiction best-sellers: expression of and impact on popular culture.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-281 Recent American Literature (3 cr.)

HUM/LIT ESB Spring

American poetry, fiction and drama since 1950.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-285 Science Fiction (3 cr.)

HUM/LIT

Critical survey of popular and classic science fiction.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-300 Children's Literature (3 cr.)

HUM/LIT ESB

Fall and Spring

Critical survey and ways of presenting literature for children from infancy to age 12.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-301 English Literature (3 cr.)

HUM/LIT Spring

Selected prose and poetry from 1798 to modern times.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-302 Topics in Literature (1 cr.)

HUM/LIT

Intensive analysis of selected authors and literary works with emphasis on discourse analysis in group and workshop settings.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113. **R**

LIT-303 Coming of Age in Literature and Film (3 cr.)

HUM/LIT ESB Fall, Spring and Summer

Exploration of literary and filmic works that treat age, coming of age, aging, and old age, including texts from American majority and minority cultures. Literary and critical analysis using age studies in literature.

Prerequisites: take ENGL-102 or ENGL-112.

LIT-304 American Folklore (3 cr.)

HUM/LIT ESB Fall and Spring

Analysis and interpretation of stories, songs, jokes, and material culture of families, work groups, ethnic groups, and religious groups.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-306 Shakespeare (3 cr.)

HUM/LIT Spring

Several representative plays and selected criticism.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-350 Modern British Literature (3 cr.)

HUM/LIT GLP

Fall and Spring

Selected poetry, prose, and fiction produced since World War I.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113.

LIT-450 Studies in Literature (theme, Author, Genre) (2-3 cr.)

HUM/LIT Fall and Spring

A study of a selected writer's work or of literature focusing on a significant theme of literature or of a genre not offered as a distinct course of similar duration within the departmental curriculum.

Prerequisites: take ENGL-102 ENGL-112 or ENGL-113. **R**

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Revised: May 2009

LOG Logic

LOG-250 Critical Thinking 3 cr.

Fall, Spring and Summer

Formulation, clarification and critical evaluation of claims: justification through non-formal argumentational strategies.

LOG-301 Introduction to Logical Thinking 3 cr.

ANRSN LOGIC Fall and Spring Semesters

Problem-solving strategies based on induction and on categorical and propositional deduction.

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Revised: February 2007

MATH Mathematics

MATH-010 Fundamentals of Algebra 2 cr.

Fall and Spring

Review of fundamental principles of elementary algebra. Credit earned for MATH-010 will not count toward graduation.

MATH-110 Intermediate Algebra 4 cr.

Fall, Spring and Summer

Basic algebraic skills: factoring, exponents, rational expressions, linear equations and inequalities, systems of equations, quadratic equations, and an introduction to functions. One year of high school algebra and math placement test is required, or MATH-010.

MATH-118 Concepts of Mathematics 4 cr.

ANRSN MATH Fall, Spring and Summer

Elementary concepts in mathematical language and reasoning, sets, number systems and theory, algebraic equations, statistics and probability, geometry, computers; historical survey. One year of high school algebra and math placement test required, or Math-010.

MATH-120 Introductory College Mathematics I 4 cr.

ANRSN MATH

Fall, Spring and Summer

Review of basic algebra, solving equations and inequalities, applications of equations and inequalities, functions and their graphs, polynomial equations, and systems of equations. Math placement test required, or MATH-110.

MATH-121 Introductory College Mathematics II 4 cr.

ANRSN MATH

Fall, Spring and Summer

Continuation of MATH-120. Study of functions to include rational, exponential, logarithmic, and trigonometric functions and two dimensional analytic geometry. Math placement test required or MATH-120.

MATH-123 Finite Mathematics With Applications 4 cr.

ANRSN MATH

Fall, Spring and Summer

Real number system, systems of linear equations and inequalities, sets, functions, vectors, matrices, probability, linear programming, theory of games, Markov chains. Math placement test required, or MATH-110 or MATH-120.

MATH-153 Calculus I 4 cr.

ANRSN MATH

Fall, Spring and Summer

Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions. Not open to those with credit in MATH-154, MATH-156, MATH-157 or MATH-158. Math placement test score of 4

or higher, or Math-121.

MATH-154 Calculus II 4 cr.

GE ANRSN MATH

Fall and Spring

Continuation of MATH-153: antiderivatives; integration theory and techniques, applications; parametric equations, vectors.

Prerequisites: take MATH-153 or MATH-156.

MATH-156 Calculus and Analytic Geometry I 5 cr.

GE ANRSN MATH

Fall and Spring

Review of real numbers, inequalities, absolute values, intervals and continuity; analytic geometry of the plane, limit concepts, derivatives of algebraic functions, definite integral.

Math placement test score of 4 or higher, or MATH-121.

MATH-157 Calculus and Analytic Geometry II 5 cr.

GE ANRSN MATH

Fall and Spring

Application of derivative and definite integral; conic sections and other algebraic curves; calculus for rational, algebraic, circular, exponential and trigonometric functions; formal integration.

Prerequisites: take MATH-153 or MATH-156.

MATH-158 Calculus III 3 cr.

Fall and Spring

Formal integration continued; parametric equations, polar representation, Cauchy's formula, Taylor's theorem, infinite series, vectors, partial differentiation, multiple integration.

Prerequisites: take MATH-154 or MATH-157.

MATH-180 Foundations of the Language of Mathematics 4 cr.

Conceptual foundations of mathematics and the language of mathematics. Logical rules of inference, statement forms, methods of proof, universal and existential quantifiers, abstraction and definition, set theory, relations, functions and cardinality. Proofs involving the above concepts and applications of the concepts and methods of proof to particular abstract mathematical objects.

Prerequisites: take MATH-153 or MATH-156.

MATH-250 Differential Equations With Linear Algebra 3 cr.

Fall and Spring

Differential equations: first-order and higher-order equations, systems of linear differential equations. Linear algebra: matrices, determinants, systems of linear equations, vector spaces, linear transformations, eigenvalues, eigenvectors.

Prerequisites: take MATH-154 or MATH-157.

MATH-255 Differential Equations 3 cr.

Spring

Common types of ordinary differential equations of first and second order; linear equations with constant coefficients; series solutions, numerical approximations, systems of ordinary equations.

Prerequisites: take MATH-154 or MATH-157; and take MATH-275.

MATH-262 Modern Geometry 3 cr.

Spring

Development of logical discourse, betweenness properties and plane separation, geometric models of axiomatic systems, modern geometry of triangle and circle, transformations (linear, circular), orthogonal systems of circles, elliptic and hyperbolic geometry.

Prerequisites: take MATH-153 or MATH-156.

MATH-270 Discrete Mathematics 3 cr.

Exploration of sets, relations, functions, formal logic, proof techniques, counting techniques, graphs, recurrence relations, and generating functions. Applications in mathematics and computer science.

Prerequisites: take MATH-153 or MATH-156.

MATH-275 Linear Algebra 3 cr.

Fall and Spring

Algebra of linear transformations and matrices. Determinants, equivalence relations, rank systems of equations, vector spaces, orthogonal transformations, characteristic equations and quadratic forms.

Prerequisites: take MATH-153 or MATH-156.

MATH-350 Vector Analysis 3 cr.

Fall, Spring and Summer

Basic theory of vectors. Vector differential calculus and vector integral calculus of two and three dimensions with applications.

Prerequisites: take MATH-158.

MATH-370 Modern Algebra I 3 cr.

Fall

Set theory, mappings, equivalence relations and classes, mathematical induction, Peano's postulates, isomorphisms; development of natural numbers, integers, rational, and real numbers; introduction to integral domains and rings.

Prerequisites: take MATH-154 and MATH-275 or MATH-157 and MATH-275.

MATH-371 Modern Algebra II 3 cr.

Spring

Continuation of MATH-370; rings, integral domains, fields, polynomials, groups, vector spaces; introduction to algebra of matrices.

Prerequisites: take MATH-370.

MATH-380 Cryptography 3 cr.

Spring

Classical, public-key and symmetric-key cryptosystems. Basic number theory. Digital signature schemes. Applications to information assurance and cyber security.

Prerequisites: take MATH-370.

MATH-450 Real Analysis I 3 cr.

Fall Semester

Rigorous development of advanced topics in analysis; functions, real numbers, sequences, Cartesian spaces, sequences of functions, limit superior and inferior, continuous functions.

Prerequisites: take MATH-154 or MATH-157.

MATH-451 Real Analysis II 3 cr.

Spring

Continuation of MATH-450; differentiation, integration, infinite series.

Prerequisites: take MATH-450.

MATH-460 Complex Variables With Applications 3 cr.

Spring

Complex numbers, analytic functions, elementary functions of complex variables, mapping of elementary functions, integration techniques, power series and calculus of residues.

Prerequisites: take MATH-158.

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Revised: February 2010

Undergraduate Bulletin University of Wisconsin-Stout

MBE Marketing & Business Education

MBE-101 Introduction to Marketing and Business Education (3 cr.)

Fall and Spring

Becoming a teacher in the disciplines of Marketing and Business Education (MBE) within K-12 schools, technical college, community colleges, and adult programs.

MBE-X49 Cooperative Education/Internship (1-8 cr.)

Work and study in an approved area of marketing education. May be recurring. Supervised during work/study periods. Recurring experiences would be designed to build upon previous experiences in the course. **R**

MBE-202 Supervision of Marketing and Business Education Career and Technical Student Organizations (3 cr.)

Fall

Competencies needed to become a successful advisor, integrate a marketing and/or business education career and technical student organization into curriculum with a focus on the high school division of BPA, FBLA, and DECA.

MBE-300 Introduction to Teaching Marketing and Business Education (3 cr.)

A study of becoming a teacher in the disciplines of Marketing and Business Education with a deep focus on their related career and technical student organizations.

MBE-301 Methods and Strategies for Teaching Marketing (4 cr.)

Fall

Marketing content structures, teaching and learning strategies and aids. Benchmark I Completed. Prerequisites: take EDUC-303.

MBE-311 Marketing and Business Education Project Method (2 cr.)

Fall

Project method of instruction in a career and technical education program. Concurrent enrollment in MBE-312 is required. Benchmark I Completed. Prerequisites: take MBE-101. Corequisite courses: MBE-312.

MBE-312 Marketing and Business Education Pre-Student Teaching (1 cr.)

Fall

Design and deliver lessons at a PK-12 school district in conjunction with MBE-311. Benchmark I Completed. Prerequisites: take MBE-101. Corequisite courses: MBE-311.

MBE-355 Marketing and Business Seminar (3 cr.)

Spring

Issues and trends in marketing, business and career and technical education. Experiences necessary for success during student teaching and upon initial career entry. **R**

MBE-401 Marketing Education Curriculum (2-3 cr.)

Fall

Program, course and lesson-level curriculum development skills. Assessment systems, strategies, design elements, and test development skills. Benchmark I Completed.

Prerequisites: take MBE-301, MBE-311, and MBE-312.

MBE-409 Marketing Education -- Student Teaching (2 -16 cr.)

Fall and Spring

Directed teaching and community experiences in selected off-campus schools. Benchmark II Completion. Prerequisites: take MBE-401.

MBE-411 Business Education Methods and Curriculum (5 cr.)

Spring

Teaching methods and curriculum design for business educators. Emphasis on basic business subjects; business literacy and entry-level job preparation; issues and trends; demonstration and development of a standards-based business education curriculum. Benchmark I Completed.

MBE-412 Elementary Keyboarding Teaching Methods (1 cr.)

Summer

Developmentally appropriate methods of instruction in keyboarding and emerging input technologies applicable to elementary educational settings.

MBE-419 Business Education Student Teaching (2-8 cr.)

Fall and Spring

Directed teaching and community experiences in selected off-campus schools. Benchmark II Completion. Prerequisites: take MBE-411.

MBE-488 Marketing Education -- Internship (8-16 cr.)

Fall and Spring

Directed teaching and community experiences in selected off-campus schools. Benchmark II Completion. Prerequisites: take MBE-401.

MBE-489 Business Education Internship (8 -16 cr.)

Fall and Spring

Directed teaching and community experiences in selected off-campus schools. Benchmark II Completion.

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Revised: March 2010

MECH Engineering Mechanics

MECH-290 Mechanics of Solids I 3 cr.

Technical calculations, dimensional analysis, freebody diagrams, force systems and equilibrium, friction, elementary statically determinate framed structures, and simple stress.

Prerequisites: take PHYS-231, PHYS-241 or PHYS-281.

MECH-291 Mechanics of Solids II 3 cr.

Stress and strain, torsion, bending of beams, compound stress, principal stress, deflection of beams, statically indeterminate members and columns.

Prerequisites: take MECH-290 or PHYS-331.

MECH-293 Engineering Mechanics 3 cr.

Force systems and equilibrium in two and three dimensions, free body diagrams, trusses, frames, friction, kinematic analysis of particle and rigid body translation, rotation, and general plane motion, force-acceleration analysis, work-energy analysis, impulse momentum analysis, impact, damped and undamped vibrations, and forced vibrations.

Prerequisites: take PHYS-281.

MECH-294 Mechanics of Materials 3 cr.

Stress and strain, stress-strain curves, material properties, stress and strain transformation, axially loaded members, elastic and inelastic flexure, shear and bending moment diagrams, beam deflections, combined loading, fatigue, column buckling.

Prerequisites: take MECH-293.

MECH-298 Field Experience 1-2 cr.

MECH-332 Mechanical Design 4 cr.

Analysis and design of machine elements: gearing bearings, shafting and friction devices.

Prerequisites: take MECH-290 and MECH-291.

MECH-337 Mechanical Design Practicum 3 cr.

Practical application of mechanical design in a team project. Creativity, documentation standards, design for manufacturability, design analysis, team dynamics, communication skills, and finite element analysis are applied to an industrial standard in the design of a machine, system, or product.

Prerequisites: take ENGGR-210 and ENGGR-280 and MECH-332.

MECH-392 Mechanics of Machinery I 3 cr.

Dynamics of machinery: rectilinear and curvilinear motion; translation and rotation of a rigid body, force-acceleration equation, impulse and momentum; work, power and energy; balancing and vibration.

Prerequisites: take MECH-290 or PHYS-331; and take MATH-153.

MECH-393 Mechanics of Machinery II 3 cr.

Graphical analysis and synthesis of linkages, cams, gear trains, displacement, velocity, acceleration and dynamic forces.

MECH-398 Field Experience 1-2 cr.

MECH-437 Mechanical Design Lab 3 cr.

An experimental study in the design of electro-mechanical systems. Design, functional prototype construction, experimentation and validation of systems are emphasized.

Prerequisites: take MECH-337 and ELEC-341.

MECH-498 Field Experience 1-2 cr.

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The Undergraduate Bulletin

Revised: July 2008

MEDIA Media Technology

MEDIA-204 Exploring Photography (3 cr.) **HUM CRPRF**

Fundamentals of analog and digital photography with an emphasis on technical processes, principles of composition, aesthetics and paradigms of visual literacy. Students must provide a digital camera with a manually adjustable shutter and aperture.

MEDIA-305 Photo Processes (3 cr.)

Fall, Spring and Summer

Advanced monochromatic photography: aesthetics, advanced theory, view-camera techniques, studio lighting, materials and equipment selection, sheet-film processing, specialized processes and techniques.

Prerequisites: take MEDIA-204. \$

MEDIA-311 Advertising and Public Relations Photography (3 cr.)

Fall, Spring and Summer

A survey of advertising and public relations photography trends and practices. The relationship between photography, typography and design, image capture, manipulation, file management, workflow, output, as well as identifying and meeting client needs and expectations are stressed. A digital SLR camera is required.

Prerequisites: take MEDIA-204.

MEDIA-330 Video Production (3 cr.)

Fall and Summer

A survey of digital audio and video production fundamentals with emphasis on workflow, digital capture, editing and manipulation and delivery alternatives.

MEDIA-335 Film-History and Appreciation (3 cr.)

Fall

Evolution of motion picture film as medium of mass communication and aesthetic expression; contributions of noted film producers.

MEDIA-340 History of Photography (3 cr.)

Spring

A survey of the scientific and aesthetic development of photography from its beginnings to the recent practices of photographic technologies in the context of post-modernity. This course will examine the diversity of styles, techniques, methods, and ideologies of selected photographers focusing on their contributions and influences in advertising, art, fashion, communication technology and pop culture.

MEDIA-360 Introduction To Media in Education and Training (2 cr.)

Fall, Spring and Summer

Use of media in education and training. Includes the production of media and instructional materials in print, video, computer-bases and multimedia formats.

MEDIA-365 Integrated Software Applications For Instruction (3 cr.)

Spring and Summer

Software applications for the professional and personal use of instructors. The effective use of word processing, spreadsheet, database, presentation, communication and other appropriate software applications with emphasis on curricular integration and professional standards.

Prerequisites: take ICT-103.

MEDIA-366 Integrated Media Applications For Instruction (3 cr.)

Prepares instructors to use various media in the learning environment. Emphasis on proper curriculum integration based on sound curriculum design principles and professional standards. Instructor's consent required. Prerequisites: take MEDIA-365.

MEDIA-370 Computer-Assisted Interactive Video (3 cr.)

Summer

Design, production and evaluation of interactive video applications. Analysis of various hardware and software systems. Instructor's consent required.

MEDIA-375 Web Production and Distribution (3 cr.)

Fall, Spring and Summer

Production and distribution of content to the World Wide Web (WWW). Consideration given to importance, types and purposes, advantages and disadvantages, production and distribution workflow, planning, use of various media elements and technologies for web production and distribution.

Prerequisites: ICT-103 or GCM-151.

MEDIA-400 Workshop (1-3 cr.)

Fall, Spring and Summer

Special topics in media technology providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. **R**

MEDIA-411 Photojournalism and Documentary Photography (3 cr.)

Fall

A survey of photojournalism and documentary trends and practices for editorial publication. The importance of the still photograph as a conveyor of information and influence on public opinion is emphasized. Ethical and moral considerations, freedom of press and the public's right to know are stressed. A digital SLR camera is required.

Prerequisites: take MEDIA-204.

MEDIA-412 Nature Photography(3 cr.)

Fall, Spring and Summer

Fundamentals of conventional and digital photography, camera techniques, composition, aesthetics, exposure, and light in relation to animals, plants, water, weather and landscapes. Emphasis on appropriate photographic equipment and field techniques for nature photography. Student must provide an adjustable camera.

Prerequisites: take MEDIA-204. **\$**

MEDIA-414 Slide Duplication and Copystand Techniques (1 cr.)

Summer

Selection and use of equipment for copystand work and slide duplication; discussion of and practice with filters and multiple exposures.

Prerequisites: take MEDIA-204.

MEDIA-430 Video/Cinema Practicum (3 cr.)

Spring

Cross discipline teams explore selected topic(s) through the completion of professional level video/cinema project(s), from concept to distribution digital media.

Prerequisites: take PHOTO-330.

MEDIA-440 Telecommunication Systems and Teleconferencing (2 cr.)

Fall, Spring and Summer

Interactive teleconferencing techniques. Applications, effective utilization and cost-effectiveness of information distribution systems, including telephone, television, teletext, videotext, viewdata, cable TV, slow-scan TV, and computers. Survey of transmission systems, including telephone lines, satellites, coaxial cable, microwave and fiber optics.

MEDIA-441 Fashion and Glamour Photography (3 cr.)

Spring

A survey of fashion and glamour photography trends and practices for advertising and editorial publication. Emphasis is placed on studio and location lighting, working with models, hair and make-up artists as well as wardrobe and prop stylists. The importance of concept and design in creating effective images is stressed.

Prerequisites: take MEDIA-204.

MEDIA-451 Product Photography (3 cr.)

Fall, Spring and Summer

Photography of natural and manufactured products for illustration, documentation, catalog and aesthetic purposes. Studio and field shooting, lighting for various product characteristics and locations, markets and market requirements, photographer-client relations, legal issues. 35mm single lens reflex, medium format, view or adjustable digital (3 megapixel minimum) camera required.

Prerequisites: take MEDIA-204.

MEDIA-495 Professional Portfolio Development (3 cr.)

Spring

Capstone experience for the Applied Photography minor. Students fine tune their direction and concentrate on the area they intend to specialize in their professional career. Students design and produce a portfolio to be evaluated by representative professionals. Standards of professional practice are emphasized. 18 MEDIA credits.

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The Undergraduate Bulletin

Revised: March 2010

MFGE Manufacturing Engineering

MFGE-106 Impacts of Engineering Design (2 cr.)

TECH GLP

Investigation and exploration into past and present practices of engineering design and the resulting impacts on people, society, and the environment.

MFGE-275 Thermodynamics and Heat Transfer (2 cr.)

Application of thermodynamics and heat transfer fundamentals to the design and analysis of manufacturing processes and systems.

Prerequisites: take PHYS-281 and MATH-250.

Corequisite course: MATH-250.

MFGE-325 Computer Aided Manufacturing for Manufacturing Engineers (3 cr.)

Effects of product mix and demand patterns on manufacturing system design and selection of process control methods. Introduction to quick changeover strategies and reprogrammable automation including numerically controlled machine tools, robotics, group technology, CAD/CAM, automated inspection and other computerized processing techniques.

Prerequisites: take MFGT-252 and ENGGR-210.

MFGE-351 Manufacturing Process Engineering I (3 cr.)

Understanding, analysis, and control of machining and metal forming processes. Emphasis is given to process characteristics of heat transfer, process forces and pressures, and machine tool dynamics. Sheet metal designs utilizing solid modeling software.

Prerequisites: take CHEM-341, MECH-294, MFGT-252, MFGE-275 and STAT-330.

MFGE-352 Manufacturing Process Engineering II (3 cr.)

Analysis of polymer and metal behavior in processing; mechanics of processing; identification of appropriate fabrication processes; diagnosis of process related problems; mathematical modeling of process designs.

Prerequisites: take MFGT-251, MFGT-253, MECH-294, MFGE-275 and STAT-330.

MFGE-363 Controls and Instrumentation (4 cr.)

Programmable logic controllers, structured ladder logic developments, input/output module description, and interfacing with analog and digital sensors and actuators. Motion, temperature, pressure and flow sensors. Advantages of closed loop control, mathematical modeling of electric and mechanical systems, stability analysis and frequency response. Introduction to motion control.

Prerequisites: take ELEC-290 and MATH-250, both with C or better.

MFGE-391 Fluid Mechanics (2 cr.)

Fundamental fluid mechanics is presented. Fluid power components and measurement systems are presented. Fluid power systems are mathematically modeled. Fluid power circuits and circuit schematics are designed and analyzed. Fluid power dynamic behavior, in general terms, is discussed.

Prerequisite: take MFGE-363.

MFGE-395 Seminar (1-2 cr.)

Title will reflect specific manufacturing content.

MFGE-400 Workshop (1-3 cr.) Special topics in manufacturing, providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. **R**

MFGE-405 Capstone I: Concurrent Design (3 cr.)

Concurrent product design and development. Concept of design; brainstorming, problem solving, and creativity methods. Engineering methods. Design analysis, solid modeling, finite element analysis and information sources. Development of teamwork and communications skills. Consideration of cell needs and limitations.

Prerequisites: take MFGE-351 and MFGE-352; corequisite: MFGE-441.

MFGE-410 Capstone II: Manufacturing System Design (3 cr.)

Dedicated and flexible manufacturing systems through the design, building and testing of a flexible manufacturing cell that produces a discrete family of parts, design of part transfer, tooling, sensing, production control and integrated inspection systems will be emphasized.

Prerequisite: take MFGE-325, MFGE-405, MFGE-415 and MFGE-391.

MFGE-415 Machine Vision and Robotics (2 cr.) Design of machine vision and industrial robotic applications, including cost justification.

Prerequisites: take INMGT-300 and MECH-293.

MFGE-440 Manufacturing System Design and Simulation (3 cr.)

Design of manufacturing systems using contemporary methods and philosophies. Modeling and comparison of system designs using simulation software. Interpretation of experimental simulation results to evaluate system design alternatives. Preparation of technical reports summarizing projects.

Prerequisites: take STAT-330 and INMGT-335 (may be concurrent).

MFGE-441 Design of Jigs, Fixtures, and Tooling (3 cr.)

Design of tooling used for machining, locating and transferring multiple parts for fixed and flexible manufacturing. Design, setup and development of tooling for robots, computer numerical control machines and other production equipment. Transfer line tooling.

Prerequisites: take MFGT-252, ENGGR-210 and MECH-294.

MFGE-465 Reliability Engineering (3 cr.)

A practical introduction to reliability engineering with the opportunity for application. Topics covered include reliability need, calculations, prediction and modeling, and test design.

Prerequisites: take STAT-330.

MFGE-490 Manufacturing System Design Problems (1-3 cr.)

Manufacturing system design through the application of previously learned principles and techniques. Issues to be addressed include: product design for manufacturability, process and tooling design and fabrication, system layout and equipment configuration, information and control architecture, implementation of quick-changeover strategies, task sequencing and scheduling, and simulation and evaluation of alternatives.

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Revised: December 2008

MFGT Manufacturing Technology

MFGT-110 Materials and Manufacturing Processes (3 cr.)

Fall and Spring

Manufacturing processes, material properties and their selection for product functions. Structure and characteristics of metal, polymer/wood, ceramic and composite materials will be examined.

MFGT-150 Introduction to Engineering Materials (3 cr.)

Fall and Spring

Exposure to engineering materials, their properties, and behavior. Topics will include: material types, testing, mechanical properties, heat treatment, and material selection. Students are expected to have had high school chemistry. Math Proficiency greater than or equivalent to Math-120.

MFGT-202 Welding and Casting Processes (3 cr.)

Fall and Spring

Lab intensive class utilizing various processes and parameters in the welding and foundry areas. Prerequisites: take MFGT-110.

MFGT-203 Machining Metal Forming Processes (3 cr.)

Fall and Spring

Machine tool concepts providing an operational knowledge of traditional and non-traditional machining processes. Fundamental forming machine and hand tool operations. Sheet metal pattern development. Prerequisites: take MFGT-110.

MFGT-204 Polymer Processes (3 cr.)

Fall and Spring

Introduction to properties of plastic, elastomeric and fiber-reinforced composite materials and the processes used to manufacture products from them. Primary and secondary manufacturing processes used to convert wood-fiber materials into components and/or finished products. Prerequisites: take MFGT-110

MFGT-251 Fundamentals of Plastics Materials and Processing (3 cr.)

Fall and Spring

Introduction to polymers, including their material, mechanical, and rheological properties. Process fundamentals including setup, operation, and troubleshooting of primary and secondary processes through a combination of classroom lectures and laboratory experiments. Introduction into analytical testing methods for characterizing polymers and analyzing defects and failures.

Prerequisites: take MFGT-110, MFGT-150 or PKG-220.

MFGT-252 Material Removal and Forming Processes (3 cr.)

Fall and Spring

Machine tool concepts providing an operational knowledge of machining and metal forming processes. Analysis and application of primary and secondary processing methods for the

manufacture of products. Measurement principles and practice applied to inspection and process control. Development of process designs appropriate for product specifications. Prerequisites: take MFGT-110 or MFGT-150.

MFGT-253 Joining and Casting Processes (3 cr.)

Fall and Spring

Process concepts providing an operational knowledge of the practice and theory of welding, thermal cutting, adhesive bonding, and metal casting processes. Analysis and application of primary and secondary processing methods for the manufacture of products. Development of process designs and practices appropriate for product specifications, inspection and process control. Prerequisites: take MFGT-110 or MFGT-150.

MFGT-303 Computer Aided Manufacturing (3 cr.)

Fall and Spring

Justification for and application of computer assistance in manufacturing process; machine process control, inventory and materials handling, robotics and automated assembly, product design and part grouping in relation to total manufacturing operation. Prerequisites: take MFGT-203 or MFGT-252, and take CADD-112 or AEC-131.

MFGT-315 Metallurgy (3 cr.)

Fall and Spring

Properties of crystalline solids, production of iron and steel, the carbon-iron equilibrium diagram, principles of heat treatment, properties of ferrous alloys. Production, properties, and theory of the most important non-ferrous metals and alloys.

MFGT-330 Plastics for Teachers (2 cr.)

Summer

Overview of plastics as a manufacturing material. Focus on plastics processes: injection molding, blow molding, extrusion, thermoforming, and reinforced resin composites. Includes lab projects for the technology education classroom and tours to plastic processing industries.

MFGT-341 Injection Molding Technology (3 cr.)

Injection molding process parameters. part and tooling design, materials selection, quoting, rapid prototyping, troubleshooting, and cycle time reduction efforts. Laboratory experiments for understanding various technologies associated with injection molding of quality parts.

Prerequisites: take STAT-130 and MFGT-251.

MFGT-342 Thermoforming and Blow-Molding Technology (3 cr.)

Part/mold design, film/sheet forming techniques, methods of heating, sheet stretching and cooling, draw ratio calculations, materials selection, part thinning, and other aspects of thermoforming. Laboratory experiments for understanding various technologies associated with thermoforming and blow molding of quality parts, including tooling options, failure analysis, and product design.

Prerequisites: take STAT-130 and MFGT-251.

MFGT-343 Extrusion Technology (3 cr.)

Extrusion and the various processes associated with extrusion; profile, flat film, blown film, and die design. Laboratory experiments for understanding various technologies associated with extrusion of quality parts, including tooling options, failure analysis, and product design.

Prerequisites: take STAT-130 and MFGT-251.

MFGT-345 Design and Simulation of Manufacturing Systems (3 cr.)

Fall and Spring

Design of manufacturing systems using contemporary methods and philosophies. Modeling and comparison of system designs using simulation software. Interpretation of experimental simulation results to evaluate system design alternatives. Preparation of technical reports summarizing projects. Statistical knowledge recommended.

Prerequisites: take STAT-130 or STAT-320 or STAT-330.

MFGT-400 Workshop (1-3 cr.)

Fall, Spring and Summer

Special topics manufacturing, providing hands-on or experiential learning activities.

Specific content and title to reflect the topic of the workshop. **R**

MFGT-405 Industrial Robotics (3 cr.)

Fall and Spring

Specifications, planning, purchasing decisions, and programming of industrial robots.

Prerequisites: take MECH-290 or PKG-350.

MFGT-489 Business and Industry Internship (1-8 cr.)

Fall and Spring

Off-campus work and study in student's area of concentration; approved salaried position with cooperating company for a semester or summer session. Junior level or higher. **R**

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The Undergraduate Bulletin

Revised: February 2010

MFT Marriage and Family Therapy

MFT-466 Alcoholism and Family Systems Intervention 2 cr.

Spring and Summer

The role of alcoholism in the family and how to intervene therapeutically.

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Revised: November 2007

MSCS Mathematics, Statistics and Computer Science

MSCS-280 Graph Theory With Applications in Computer Science 3 cr.

Spring

Basic logic and proving skills, Boolean Algebra, digital logic, recurrence relation, principles of graph theory, computer representation of graphs, properties of general graphs, structure and properties of special graphs, flow networks, computer applications of graph theory, algorithms and complexity analysis. Prerequisites: take CS-244.

MSCS-390 Topics 1-2 cr.

Topics of current importance in applications of mathematics to problems in business, industry, government or society. May be repeated for additional credit with consent of program director. R

MSCS-446 Numerical Analysis I 3 cr.

Fall

Theory and applications of numerical methods for linear algebra, non-linear equations and polynomial interpolation.

Prerequisites: MATH-158, MATH-275, and CS-145.

MSCS-447 Numerical Analysis II 3 cr.

Theory and applications of numerical methods for approximation, numerical integration and differentiation, differential equations, and Fourier analysis.

Prerequisites: MSCS-446, MATH-255.

MSCS-475 Applied Mathematics Internship 2-8 cr.

Fall, Spring and Summer

Off-campus work and study in approved position to gain experience in using computer and/or statistical techniques in the analysis and solution of real-world problems. Interns receive salaried appointments with cooperating companies for summer or summer plus one semester. Junior level or higher. R

MSCS-490 Mathematical Models I 2 cr.

Supervised experiences in construction of mathematical models for the solution of problems in area of student's needs and interests; resource materials. Senior level or higher. Applied Mathematics and Computer Science majors only.

MSCS-491 Mathematical Models II 2 cr.

Continuation of MSCS-490.

Prerequisites: MSCS-490.

MSCS-492 Mathematical and Computational Foundations of Bioinformatics

In depth examination of different types of algorithms employed in bioinformatics, their mathematical foundations, and software implementation. Topics in mapping DNA, sequencing DNA, comparing sequences, predicting genes, finding signals, identifying proteins, repeat analysis, DNA arrays, genome rearrangements, molecular evolution,

phylogenetics, machine learning, systems biology and computational biology. Senior level or higher; Applied Math & Computer Science majors only.

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The Undergraduate Bulletin
Revised: June 2009

MSL Military Science and Leadership

MSL-101 Foundations of Officership 1 cr.

Spring

Introduction to the Army profession and military leadership. Exploration of the seven Army values and 16 Army leadership dimensions, as well as some core competencies critical to effective leadership (i.e. management, problem-solving, decision-making). Off campus weekend leadership orientation in a military environment with outdoor physical activities, including pugil stick, obstacle course, land navigation/orienteering, basic rifle marksmanship, and confidence course training.

MSL-102 Basic Leadership 1 cr.

Fall and Spring

Establishes foundation of basic leadership fundamentals such as problem solving, communication, goal setting, and techniques for improving listening and speaking skills. Life skills are reinforced as well as an introduction to counseling and operations orders. Lab provides instruction on squad movement techniques, map reading, physical fitness and marching techniques.

MSL-201 Individual Leadership Studies 2 cr.

Fall

Identification of successful leadership characteristics through the observation of others and self through experiential learning exercises. Students record observed traits (both good and bad) in a dimensional leadership journal and discuss observations in small group settings. The lab applies basic leadership theory and decision making during practical exercises in a field environment. Instructor's consent required. Prerequisite: take MSL-101.

MSL-202 Leadership and Teamwork 2 cr.

HPE Fall and Spring

Examines building successful teams, methods for influencing action, effective communication in setting and achieving goals, the importance of timing the decision, creativity in the problem-solving process, and obtaining team cohesion through immediate feedback. The lab applies basic leadership theory and decision making during practical exercises in a field environment. Prerequisites: take MSL-102.

MSL-301 Adaptive Team Leadership 3 cr.

Fall

Students conduct self-assessment of leadership style, develop personal fitness regimen, and learn to plan and conduct individual/small-unit tactical training while testing reasoning and problem-solving techniques. Students receive direct feedback on leadership abilities. The lab reinforces small-unit tactical training while employing the troop-leading procedure to accomplish planning and decision making. Instructor's consent required.

MSL-302 Leadership Under Fire 3 cr.

Fall and Spring

The role of communication, value, and ethics in effective leadership. Ethical decision making, diversity, spirituality, and survey of Army leadership doctrine. Emphasis on improving oral and written communication abilities. Lab reinforces small-unit tactical training while employing troop-leading procedure to accomplish complex planning and decision making. Instructor's consent required.

MSL-350 Leader Development and Assessment Course Field Experience 2 cr.

Summer

A 33-day ROTC training event designed to develop and evaluate leadership ability, including judgment, common sense, ingenuity and stamina. Perform complex tasks and make difficult decisions in demanding situations. Prerequisites: take MSL-301 and MSL-302.

MSL-401 Developing Adaptive Leaders 3 cr.

Fall and Spring

Develop student proficiency in planning and executing complex operations, functioning as a member of a staff, and mentoring subordinates. Students explore training management, methods of effective staff collaboration, and developmental counseling techniques. The lab hones the students' leadership skills, attributes and abilities as they operate as cadet officers. Instructor's consent required.

MSL-402 Leadership in A Complex World 3 cr.

Fall and Spring

Study includes a case study analysis of military law and practical exercises on establishing an ethical command climate. Students must complete a semester- long Senior Leadership Project that requires them to plan, organize, collaborate, analyze, and demonstrate their leadership skills. The lab continues to sharpen the students' leadership skills. Instructor's consent required.

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The Undergraduate Bulletin
Revised: January 2007

Undergraduate Bulletin University of Wisconsin-Stout

MUSIC Music

MUSIC-101 Class Piano I 1 cr.

HUM CRPRF Fall and Spring Semesters

Group instruction in piano technique and repertoire at beginner level. One one-hour lesson per week; additional practice time required.

MUSIC-111 Advanced Piano I 1 cr.

Fall and Spring Semesters

Private instruction in piano technique and repertoire. One 1/2-hour lesson per week; additional practice time required; optional recital.

MUSIC-112 Advanced Voice I 1 cr.

Fall and Spring Semesters

Private instruction in vocal technique and repertoire. One 1/2-hour lesson per week; additional practice time required; optional recital.

MUSIC-130 Music Appreciation 2 cr.

HUM ARTMU Fall, Spring and Summer

Music materials as they pertain to perceptive listening; music and musicians from medieval times to present; students gain significant awareness of great music. Students do not earn credit for both MUSIC-130 and MUSIC-132.

MUSIC-132 Music in Our World 3 cr.

HUM ARTMU ESC Fall, Spring and Summer

Music materials as they pertain to perceptive listening; music and musicians from the beginnings of music to the present. Great music from many cultures. Students do not earn credit for both MUSIC-130 and MUSIC-132.

MUSIC-201 Class Piano II 1 cr.

GEHUM CRPRF Fall and Spring Semesters

Continuation of MUSIC-101 at intermediate level. One one-hour lesson per week; additional practice time required.

MUSIC-206 Music for the Young Child 2 cr.

Fall and Spring Semesters

Music elements and experience, methods and materials for guiding the musical growth of children from birth through third grade. P: MUSIC-101.

MUSIC-211 Advanced Piano II 1 cr.

Fall and Spring Semesters Continuation of MUSIC-111.

MUSIC-212 Advanced Voice II 1 cr.

Fall and Spring Semesters Continuation of MUSIC-112.

MUSIC-264 Jazz Band 1 cr.

HUM CRPRF Fall and Spring Semesters

Jazz styles and improvisation from the dance band era to the present. Study and performance of contemporary "big band" jazz. Membership is open to all qualified students. Instructor's consent required. Membership by audition. **R**

MUSIC-266 Concert Band 1 cr.

HUM CRPRF Fall and Spring Semesters

Fundamentals of musical expression, tone production and quality, and special problems of technique. Membership by audition only. **R**

MUSIC-267 Symphonic Singers 1 cr.

HUM CRPRF Fall and Spring Semesters

Advanced choral techniques, reading and analysis of choral music of all types and periods. **R \$**

MUSIC-268 Solo and Ensemble 1 cr.

Fall and Spring Semesters

Coaching of advanced vocal and instrumental performers for public performance. **R**

MUSIC-270 Vocal Jazz Ensemble 1 cr.

HUM CRPRF Fall and Spring Semesters

Performance of vocal jazz in a select choral ensemble. Membership by audition only. **R**

MUSIC-311 Advanced Piano III 1 cr.

Fall and Spring Semesters

Continuation of MUSIC-211. Equivalent to 360-311. **R**

MUSIC-312 Advanced Voice III 1 cr.

Fall and Spring Semesters

Continuation of MUSIC-212. **R**

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The Undergraduate Bulletin

Revised: December 2008

NANO Nanoscience/Nanotechnology

NANO-101 Exploration of Nanotechnology (2 cr.)

NSCI TECH LAB

Introduction to main principles and concepts of nanotechnology with an exploration of the societal and environmental impact of nanotechnology across a vast array of fields including health care, manufacturing, environment, biotechnology, energy and food production, and information technology. One year of high school chemistry and math proficiency greater than or equal to MATH-120.

NANO-301 Nanostructures (3 cr.)

Introduction to nanostructured materials, theory of processes to design materials with nanostructure, and properties and behavior of nanostructured materials.

Prerequisites: take NANO-101 and CHEM-341.

NANO-330 Characterization Methods of Nanomaterials (3 cr.)

LAB

Laboratory based course that covers basic techniques and theory of modern characterization methods of nanomaterials. Techniques include: electron microscopy, scanning probe microscopy, diffraction spectroscopy and emission spectroscopy.

Prerequisites: take CHEM-341 and PHYS-282.

NANO-401 Nanotechnology Applications (3 cr.)

Review of current nanotechnology applications including societal effects.

Prerequisites: take NANO-301.

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The Undergraduate Bulletin

Reviewed: May 2008

PE Physical Education and Athletics

PE-101 Aerobic Dance (1 cr.)

HPE ACTV Fall and Spring

Introduction to aerobic dance as a technique for the development of physical fitness.

PE-103 Archery/Beginning (1 cr.)

HPE ACTV Fall and Spring

PE-105 Bow Hunting (1 cr.)

HPE ACTV Fall and WinTerm

Conservation, safety, selection and care of equipment; techniques and practical bow hunting experience.

PE-107 Badminton (1 cr.)

HPE ACTV Fall and Spring

PE-109 Basketball (1 cr.)

HPE ACTV Fall and Spring R

PE-110 Bicycling (1 cr.)

HPE ACTV

Bicycling for health and fitness: safety, technique, and knowledge.

PE-113 Bowling (1 cr.)

HPE ACTV Fall, WinTerm, Spring and Summer \$

PE-115 Canoe Techniques (1 cr.)

HPE ACTV Spring \$

PE-120 Self-Paced Personal Fitness (1 cr.)

HPE Fall, WinTerm, Spring and Summer

Improvement of personal physical fitness through self-paced exercise programs and fitness activities.

PE-121 Exercise For Fitness (1 cr.)

HPE ACTV Fall, Spring and Summer

PE-122 Fitness Yoga (1 cr.)

HPE Fall and Spring

An introduction to yoga as a mind/body fitness practice.

PE-125 Fly Fishing (1 cr.)

Spring

Fly tying, casting techniques, literature, stream craft, equipment considerations, conservation ethics and natural resources stewardship.

PE-129 Golf(1 cr.)

HPE ACTV Fall, Spring and Summer

Fundamental principles of golf; skills, history, etiquette and application of techniques.

Required: play 27 holes of golf, pay greens fees, furnish three golf balls for class use. \$

PE-135 Walking/Jogging (1 cr.)

HPE ACTV Fall, Spring and Summer

The study and practice of walking/jogging as an exercise philosophy, as an exercise technique and an exercise program.

PE-136 Ice Fishing (1 cr.)

HPE ACTV WinTerM

An introduction to the sport of ice fishing.

PE-142 Outdoor Skills(1 cr.)

HPE ACTV Fall \$

PE-143 Rock Climbing (1 cr.)

HPE Fall, Spring and Summer

Rock climbing as a recreational sport.

PE-144 Personal Defense (1 cr.)

HPE ACTV Fall, Spring and Summer

Development of physical fitness for defense consciousness; techniques of initial and basic defense skills in weapon and rape attacks.

PE-145 Practicum in Intercollegiate Athletics (1 cr.)

HPE ACTV Fall, Spring and Summer

Practical experience in intercollegiate athletics, including completion of a season as a member of an intercollegiate team.

Prerequisites: take PE-200. **R**

PE-146 Racquetball/Beginning (1 cr.)

HPE ACTV Fall and Spring

PE-148 Relaxation (1 cr.)

HPE ACTV Fall, Spring and Summer

PE-150 Snowboarding (1 cr.)

HPE Spring

An introduction to the skills and safety aspects basic to snowboarding. \$

PE-152 Skiing (1 cr.)

HPE ACTV Spring \$

PE-154 Fishing (1 cr.)

HPE ACTV

History, terminology, regulations, equipment and techniques involved in the recreational activity of fishing.

PE-155 Introduction to Curling (1 cr.)

HPE ACTV \$

Definition and application of curling terminology, history, etiquette, technique, and strategy. Curling's interrelationship with mental and physical wellness, and professional opportunities.

PE-156 Soccer (1 cr.)

HPE ACTV Fall and Spring

The development and improvement of the skills and tactics required in the sport of soccer.

PE-159 Softball (1 cr.)

HPE ACTV Spring

The development and improvement of the skills required in the sport of softball.

PE-173 Skin and Scuba Diving (1 cr.)

HPE ACTV Fall, Spring and Summer **\$**

PE-176 Tennis/Beginning (1 cr.)

HPE ACTV Fall and Spring

PE-182 Tumbling I (1 cr.)

HPE ACTV Fall and Spring

An introduction to basic tumbling skills, including forward, backward, and sideward rotational skills as well as springing and vaulting movements from the hands and feet.

PE-183 Tumbling II (1 cr.)

HPE ACTV Fall and Spring

Continued study of tumbling techniques including forward and backward rotational skills, twisting, and connections of rotational skills.

Prerequisites: take PE-182 (12527).

PE-184 Tumbling III (1 cr.)

HPE ACTV Fall and Spring

Continued study of tumbling techniques including multiple twisting and multiple flipping rotational skills.

Prerequisites: take PE-183.

PE-185 Volleyball (1 cr.)

HPE ACTV Fall and Spring **R**

PE-187 Weight Training (1 cr.)

HPE ACTV Fall, Spring and Summer

PE-200 Orientation To Intercollegiate Athletics (1 cr.)

Fall and Spring

Introduction to intercollegiate athletics, including NCAA and conference regulations; current issues, such as professional sports, costs, drugs, Title IX, minority issues and ethics; components of athletic programs; physiology of exercise; and psychology of sport.

PE-265 Physical Activities For Young Children (2 cr.)

Fall and Spring

Sequential development of physical perceptual skills in children, birth to age 5; perceptual motor activities that promote development.

PE-345 Basketball Officiating (1 cr.)

Rules and officiating techniques for men's and women's basketball; preparation for DGWS and/or WIAA officiating certifications.

PE-346 Football Officiating (1 cr.)

Application of football officiating rules and techniques.

PE-352 Theory and Management of Coaching (2 cr.)

Fall

Current management principles and practices applied to the profession of coaching.

PE-362 Psycho-Social Aspects of Athletics (2 cr.)

Spring

Examination of the psychology of sport and human movement. Understanding motivation, individual differences and social influence.

PE-401 Coaching Gymnastics (2 cr.)

Elements of gymnastic tumbling and use of gymnastic apparatus as part of a modern physical education program.

PE-460 Coaching Basketball (2 cr.)

Fundamentals and methods of teaching and coaching basketball, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications.

PE-461 Coaching Football (2 cr.)

Fall

Fundamentals and methods of teaching and coaching football, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications.

PE-470 Coaching Baseball (2 cr.)

Fundamentals and methods of teaching and coaching baseball, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications.

PE-471 Coaching Track and Field (2 cr.)

Fundamentals and methods of teaching and coaching track and field, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications.

PE-478 Coaching and Officiating Volleyball (2 cr.)

Skills and techniques of coaching and officiating competitive volleyball. Instructor's consent required. Prerequisites: take PE-185.

PE-480 Coaching Youth Athletes (2 cr.)

Coaching strategies for organized non-varsity youth sports programs--philosophy, psychology, physiology, pedagogy, prevention and care of injuries, and legalities.

PE-481 Coaching Hockey (2 cr.)

Philosophies, fundamentals and methods of teaching and coaching offensive and defensive hockey skills and strategies; organizing and administering hockey programs at all age levels. Sophomore level or higher.

PE-482 Coaching Softball (2 cr.)

Philosophies, fundamentals and methods of teaching and coaching offensive and defensive softball skills and strategies; organizing and administering softball programs at all age levels. Sophomore level or higher.

PE-483 Coaching Soccer (2 cr.)

Fall and Spring

Philosophies, fundamentals and methods of teaching and coaching offensive and defensive soccer skills and strategies; organizing and administering soccer programs at all age levels. Sophomore level or higher.

PE-490 Practicum in Coaching (1-3 cr.)

Fall, Spring and Summer

On- or off-campus work and study in athletic coaching with competitive teams.

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The Undergraduate Bulletin
Revised: July 2010

PHIL Philosophy

PHIL-201 Introduction to Philosophy 3 cr.

HUM PHIL GLP Fall and Spring Semesters

Introduction to the principal problem areas and history of philosophy, as well as to the nature of philosophical investigation.

PHIL-205 Philosophy of Religion 3 cr.

HUM PHIL Fall Semester

Principal philosophical problems in the various dimensions of religious experience and belief.

PHIL-215 Eastern Philosophy 3 cr.

HUM PHIL GLP Spring Semester

Philosophies of India, China and Japan: Hinduism, Buddhism, Confucianism, Taoism and Zen Buddhism.

PHIL-220 Multicultural Philosophy 3 cr.

HUM PHIL ESA

African American, Hispanic American, Asian American, American Indian, and Feminist philosophies. Philosophical issues of race, social justice, values, environmental ethics, spiritual belief, and epistemology.

PHIL-225 Belief, Knowledge and Truth 3 cr.

HUM PHIL

Justification of rational belief and knowledge and methods used for obtaining them, with particular emphasis on problems of evidence and truth.

Prerequisites: take ENGL-102, ENGL-112 or ENGL-113 .

PHIL-235 General Ethics 3 cr.

HUM PHIL Fall, Spring and Summer

Ethical valuing process: principal ethical theories and their application to common human problems. Prerequisites: take ENGL-102, ENGL-112 or ENGL-113.

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Revised: January 2009

PHOTO Photography

PHOTO-204 Exploring Photography (3 cr.)

HUM CRPRF

Fundamentals of analog and digital photography with an emphasis on technical processes, principles of composition, aesthetics and paradigms of visual literacy. Students must provide a digital camera with a manually adjustable shutter and aperture.

PHOTO-305 Photo Processes (3 cr.)

Fall, Spring and Summer

Advanced monochromatic photography: aesthetics, advanced theory, view-camera techniques, studio lighting, materials and equipment selection, sheet-film processing, specialized processes and techniques.

Prerequisites: take PHOTO-204. \$

PHOTO-311 Advertising and Public Relations Photography (3 cr.)

Fall, Spring and Summer

A survey of advertising and public relations photography trends and practices. The relationship between photography, typography and design, image capture, manipulation, file management, workflow, output, as well as identifying and meeting client needs and expectations are stressed. A digital SLR camera is required.

Prerequisites: take PHOTO-204.

PHOTO-330 Video Production (3 cr.)

Fall and Summer

A survey of digital audio and video production fundamentals with emphasis on workflow, digital capture, editing and manipulation and delivery alternatives.

PHOTO-335 Film-History and Appreciation (3 cr.)

Fall

Evolution of motion picture film as medium of mass communication and aesthetic expression; contributions of noted film producers.

PHOTO-340 History of Photography (3 cr.)

Spring

A survey of the scientific and aesthetic development of photography from its beginnings to the recent practices of photographic technologies in the context of post-modernity. This course will examine the diversity of styles, techniques, methods, and ideologies of selected photographers focusing on their contributions and influences in advertising, art, fashion, communication technology and pop culture.

PHOTO-411 Photojournalism and Documentary Photography (3 cr.)

Fall

A survey of photojournalism and documentary trends and practices for editorial publication. The importance of the still photograph as a conveyor of information and influence on public opinion is emphasized. Ethical and moral considerations, freedom of press and the public's right to know are stressed. A digital SLR camera is required.

Prerequisites: take PHOTO-204.

PHOTO-412 Nature Photography(3 cr.)

Fall, Spring and Summer

Fundamentals of conventional and digital photography, camera techniques, composition, aesthetics, exposure, and light in relation to animals, plants, water, weather and landscapes. Emphasis on appropriate photographic equipment and field techniques for nature photography. Student must provide an adjustable camera.

Prerequisites: take PHOTO-204. \$

PHOTO-430 Video/Cinema Practicum (3 cr.)

Spring

Cross discipline teams explore selected topic(s) through the completion of professional level video/cinema project(s), from concept to distribution digital media.

Prerequisites: take PHOTO-330.

PHOTO-441 Fashion and Glamour Photography (3 cr.)

Spring

A survey of fashion and glamour photography trends and practices for advertising and editorial publication. Emphasis is placed on studio and location lighting, working with models, hair and make-up artists as wells as wardrobe and prop stylists. The importance of concept and design in creating effective images is stressed.

Prerequisites: take PHOTO-204.

PHOTO-451 Product Photography (3 cr.)

Fall, Spring and Summer

Photography of natural and manufactured products for illustration, documentation, catalog and aesthetic purposes. Studio and field shooting, lighting for various product characteristics and locations, markets and market requirements, photographer-client relations, legal issues. 35mm single lens reflex, medium format, view or adjustable digital (3 megapixel minimum) camera required.

Prerequisites: take PHOTO-204.

PHOTO-495 Professional Portfolio Development (3 cr.)

Spring

Capstone experience for the Applied Photography minor. Students fine tune their direction and concentrate on the area they intend to specialize in their professional career. Students design and produce a portfolio to be evaluated by representative professionals. Standards of professional practice are emphasized. 18 PHOTO credits.

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Revised: March 2010

PHYS Physics

PHYS-150 The Nature and Application of Light and Color (2 cr.)

NSCI PHYSC

The nature of light and color: the basic principles of our visual perception of nature and the arts are presented for students with no formal background in science.

Math Placement score required or MATH-010.

PHYS-151 Astronomy (3 cr.)

NSCI PHYSC LAB Spring

The solar system, stars, galaxies and the universe. Physical processes and observational methods.

PHYS-211 Introduction to Physics (3 cr.)

NSCI PHYSC Fall and Spring

Introduction to principles of physics, including mechanics, fluids, heat and thermodynamics, light and sound, electricity and magnetism; their applications to specific technologies.

PHYS-212 Introduction to Physics: Lab (1 cr.)

NSCI PHYSC LAB Fall and Spring

Measurement, analysis and presentation of laboratory data on basic physics concepts, including mechanics, fluids, heat, electricity, light and sound. Corequisite courses: PHYS-211.

PHYS-222 Heat and Thermodynamics (2 cr.)

Concepts of temperature and heat, temperature-dependent properties and processes, heat transfer; laws relating heat and other forms of energy.

Prerequisite: take PHYS-231.

PHYS-231 General Physics I (4 cr.)

NSCI PHYSC LAB

Algebra- and trigonometry-based general physics course: mechanics and sound with laboratory. Math proficiency greater than or equal to Math-121.

PHYS-232 General Physics II (4 cr.)

NSCI PHYSC LAB

Algebra- and trigonometry-based general physics course: electricity and light with laboratory.

Prerequisites: take PHYS-231.

PHYS-241 College Physics I (5 cr.)

NSCI PHYSC LAB Fall and Spring

Calculus-based general physics course: mechanics and thermodynamics with laboratory.

Prerequisites: take MATH-153 or MATH-156.

PHYS-242 College Physics II (5 cr.)

NSCI PHYSC LAB Fall and Spring

Calculus-based general physics course: electricity, sound, light and selected topics in modern physics with laboratory.

Prerequisites: take PHYS-241.

PHYS-250 The Physics of Light and Color (3 cr.)

NSCI PHYSC LAB

Properties, sources and perception of light are examined through lectures and laboratory activity. Topics considered are: color systems and vision, optical devices and phenomena; and image formation and appearance.

Prerequisites: take MATH-118, MATH-120 or MATH-123.

PHYS-251 Topics in Astronomy (1 cr.)

NSCI PHYSC

Qualitative analysis emphasizing physical principles of selected topics in astronomy.

Significance of modern methods of obtaining astronomical information.

PHYS-255 Meteorology (2 cr.)

NSCI PHYSC Spring

Physical processes that determine properties of the earth's atmosphere: precipitation, atmospheric circulation, weather, climate and human influence on the atmosphere in the framework of physics.

PHYS-257 Introduction to Geology and Soil Mechanics (3 cr.)

Fall and Spring

Physical processes involved in rock formation, mountain building, erosional landscapes, plate tectonics, earthquakes and geologic dating. Elementary soil mechanics.

PHYS-258 Introduction to Geology (2 cr.)

NSCI PHYSC Fall and Spring

Composition of the earth and its physical processes, including geologic time, rocks and minerals, raw resources and energy, volcanism, earthquakes, streams and groundwater, weathering, glaciation, shorelines, deserts, wind, and planetary geology.

PHYS-281 University Physics I (5 cr.)

NSCI PHYSC LAB Fall and Spring

Calculus-based general physics course: mechanics and thermodynamics with laboratory.

Prerequisites: take MATH-154 or MATH-157.

PHYS-282 University Physics II (5 cr.)

NSCI PHYSC LAB Fall and Spring

Calculus-based general physics course: electricity, sound, light, and selected topics in modern physics with laboratory.

Prerequisites: take PHYS-281.

PHYS-321 Statics and Strength of Materials (4 cr.)

Fall and Spring

Force and moment equilibrium including friction, trusses, frames and machines. Simple and compound stress and strain including beams and joints. No credit for students taking PHYS-325 or PHYS-331.

Prerequisites: take PHYS-241 or PHYS-281.

PHYS-325 Strength of Materials (3 cr.)

Fundamental theory of strength of materials. Analysis of tension, compression, shear, biaxial tension and compression, torsion, stresses and deflection of beams.

Prerequisites: take PHYS-231, MATH-153 or MATH-156; or take PHYS-241; or take PHYS-281.

PHYS-327 Solid State Physics (3 cr.)

Crystalline structure, lattice vibration and energy states, Brillouin zones, electrons in metals, semi-conductors, and dielectric and magnetic properties of solids.

Prerequisites: take PHYS-282 or PHYS-242; and MATH-157 or MATH-154.

PHYS-329 Atomic and Nuclear Physics (3 cr.)

Elements of atomic and nuclear physics.

Prerequisites: take PHYS-282; or take PHYS-242 and MATH-154 or MATH-157.

PHYS-330 Science and the Fallible Mind for Educators (2 cr.)

Cross-disciplinary, physical science course primarily intended for educators. Defines and examines science with a perspective on societal issues related to the human mind, consumer marketing, psychology, religion, risk and fear, global concerns, and the use and abuse of numbers. High school algebra.

PHYS-331 Statics (3 cr.)

Essential elements of statics: simple force system, theory and application of non-concurrent forces, couples, friction, non-coplanar forces, trusses and other structures.

Prerequisites: take PHYS-241 or PHYS-281.

PHYS-333 Dynamics (3 cr.)

Essential elements of dynamics: rectilinear, angular and harmonic motions; forces producing motion, work, energy, acceleration, impulse and momentum.

Prerequisites: take PHYS-331.

PHYS-335 Optics (3 cr.)

Optics with emphasis on the wave nature of light: interference diffraction, polarization and coherence; their applications in holography.

Prerequisites: take PHYS-282; or take PHYS-242 and MATH-154 or MATH-157.

PHYS-351 Astrophysics (3 cr.)

Fall, Spring and Summer

Quantitative and qualitative study of the solar system, stars, galaxies and the universe. Physical processes and observational methods and analysis.

Prerequisites: take PHYS-282 or PHYS-242.

PHYS-358 Soil Science and Conservation (4 cr.)

Soil formation and the relationship of its physical, chemical, and biological properties to natural and agricultural ecosystems with implications for sustainable management.

Prerequisites: take PHYS-258 or CHEM-135.

PHYS-360 Physics Modeling for Game Programmers (3 cr.)

Use of mathematics and physics to model the physical world for use in games and other computer simulations. Topics include motion, gravity, collisions, vectors, matrices, differential equations, dynamics, hydrostatics, hydrodynamics, and elastic systems to model common game objects.

Prerequisites: take CS-244, MATH-158, MATH-275, and PHYS-281.

PHYS-380 Electromagnetic Fields (3 cr.)

Development and application of the theory of electromagnetic fields; analysis of the electromagnetic properties of materials and Maxwell's equations.

Prerequisites: take PHYS-282 or PHYS-242, and MATH-255 or concurrent enrollment.

Corequisite course: MATH-255.

PHYS-489 Advanced Physics Experience (1-3 cr.)

Fall and Spring

Experience leading to a deeper understanding of principles and applications of physics.

Junior or higher standing and consent of instructor required.

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Revised: April 2010

PKG Packaging

PKG-100 Packaging and Society (2 cr.)

TECH GLP

A broad overview of the importance of packaging in society. Introduction to packaging and its interrelationship to multiple disciplines including impact on people and the environment.

PKG-150 Packaging Fundamentals (3 cr.)

Explore the purpose of packaging materials and manufacturing methods, including global perspectives, history, environment, market and consumer needs.

PKG-200 Packaging Materials (3 cr.)

Origin, composition, properties and application of packaging materials; lab work in packaging and materials testing methods.

Prerequisites: take PKG-150.

PKG-210 Packaging Materials: Paper, Wood, Adhesives, and Metal (3 cr.)

Technical exploration of paper, wood, adhesives and metal used in packaging worldwide. Material properties and international production processes, applications, environmental impacts of paper, wood, adhesives, and metal.

Prerequisites: take PKG-150 and CHEM-135.

PKG-220 Packaging Materials: Polymers and Glass (3 cr.)

Technical exploration of polymers and glass used for packaging worldwide. Material properties, production processes, applications, environmental impacts of polymers and glass.

Prerequisites: take PKG-150 and CHEM-135.

PKG-250 Consumer Packaging Systems (3 cr.)

The study of packaging from the design concept through production. Lab work on structural design, sample making, and machine operation. Discussions on standard packages and their applications.

Prerequisites: take PKG-200 or take PKG-210 and PKG-220.

PKG-260 Distribution Packaging (3 cr.)

Packaging systems to support the distribution functions. Topics will include shipping containers, palletizing, unitizing, barrier problems, marking and coding for shipment, freight regulations, military specifications and hazardous materials regulations.

Prerequisites: take PKG-200 or take PKG-210 and PKG-220.

PKG-335 Packaging Machinery (3 cr.)

Weighing, forming, filling, sealing, cartoning, capping, labeling, wrapping, casing, uncasing, palletizing/depalletizing machines as applies to the functional capabilities of speed, materials, containers, and operating functions.

Prerequisites: take PKG-200 or take PKG-210 and PKG-220.

PKG-350 Packaging Design and Evaluation (3 cr.)

Chemical and physical protection problems; materials, structure, graphics and regulations in package design; shock and vibration forces in package evaluation; practical applications of evaluation using electronic instrumentation.

Prerequisites: take PKG-250 and PKG-260 and PHYS-241 or PHYS-281.

PKG-450 Food Packaging Laboratory (3 cr.)

Solve complex problems in food packaging research and development through understanding the interrelationships of food and packaging in laboratory exercises.

PKG-489 Business and Industry Internship (1-8 cr.)

Off-campus work and study in student's area of concentration; approved salaried position with cooperating company for a semester or summer session. Junior level or higher. **R**

PKG-490 Packaging Development (3 cr.)

Applications of packaging functions: developing a product's complete packaging system, from final production of product to consumer.

Prerequisites: take PKG-350.

PKG-495 Packaging Seminar (2 cr.)

Current packaging problems or developments (subject based on students' interests and current issues).

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Updated: July 2008

PLE Plastics Engineering

PLE-180 Introduction to Plastics 3 cr.

Examine basics of molecular structure, mechanical behavior, and rheological properties of plastics. Overview of plastics processing, new technologies related to processing, post-consumer-life, and introduction to ASTM/ISO standards used for testing and materials characterization. Prerequisites: MFGT-150.

PLE-305 Extrusion Theory and Application 3 cr.

Advanced applications for extrusion and the various processes associated with extrusion. Profile, flat film, and blown film extrusion as well as blow molding and die design will be discussed at both the macro and micro levels. Laboratory experiments will focus on processing variables, part design, and materials. Prerequisites: PLE-180 and MFGE-275.

PLE-310 Injection Molding Theory, Design and Application 3 cr.

This course builds on basic injection molding knowledge with an emphasis on design, process cause and effect, troubleshooting, advanced molding techniques, cycle time reduction efforts, thermal management techniques, rapid prototyping, and small parts molding. Prerequisites: MFGT-341, MFGE-275, and ENGGR-210.

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Revised: August 2010

PM Property Management

PM-100 Introduction to Property Management (2 cr.)

Property management industry overview: types of residential and commercial property managed and career paths within the industry. Understanding relationships among property managers, owners and tenants. PM-

PM-358 Ethical Decision Making in Property Management (3 cr.)

Analysis of ethical decisions in property management. Case studies incorporating major laws impacting the property management industry; codes of ethics of major professional societies in property management.

PM-362 Real Estate Market Analysis and Investment Analysis (3 cr.)

Analytical tools used for decision making by property managers and the stakeholders they serve. Market and investment analysis and role in providing a financial perspective for the property manager and owner. Prerequisites: take BUACT-207.

PM-370 Principles of Property Management (3 cr.)

Management of commercial, multifamily and common interest development property. Employees, management tools, government involvement, client acquisition and tax requirements.

PM-371 Commercial/Residential Property Development and Management (3 cr.)

Exploring factors involved in developing and managing property, both residential and commercial, including undeveloped land. Topics include feasibility studies, financing, appraisal, leases, purchase agreements and management contracts. Prerequisites: take PM-370.

PM-381 Marketing and Leasing Commercial and Residential Property (3 cr.)

Effective marketing practices, leasing strategies and tactics designed to attract and retain qualified residential and commercial tenants to income producing properties. Prerequisites: take PM-370.

PM-470 Seminar in Property Management (3 cr.)

Capstone course for Property Management. Preparation of a property management plan for a specific property. Discussion of current trends and industry problems. Exploration of development and operating strategies of property management firms. Prerequisite: take PM-370.

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POLS Political Science

POLS-210 American Government 3 cr.

SBSCI POLS ESB Fall, Spring and Summer

Structures and processes of national, state and local government in the United States; constitutional framework, political theory and ideology, racial and ethnic dimensions of U. S. political culture, civil rights, media, voting, parties, elections, interest groups, and policy making. Comparisons with selected foreign governments.

POLS-220 State and Local Government 3 cr.

State and local governments within U.S. federal system.

POLS-250 Politics and Technology 3 cr.

TECH Fall and Spring Semesters

Analysis of the interfacing of technology and politics, focusing on the dynamics of the public policy process involving selected technologies, events, issue groups and governmental institutions.

POLS-260 Problems of U.S. Foreign Policy 3 cr.

Analysis of U.S. foreign policy objectives and decision making; problems of national defense, Third World relationships, economic and resource policies, Presidential/Congressional authority, intelligence operations and public opinion.

POLS-270 Introduction to Comparative Government 3 cr.

SBSCI GLP

Analysis and comparison of basic political principles, institutions and problems of major Western, Communist and underdeveloped nations; consideration of alternative approaches to political order and change.

POLS-310 Political Parties and Elections 3 cr.

Analysis of modern political parties. Nominating methods, campaigns, elections. Practical politics in legislative bodies; machines and bosses.

P: POLS-210.

POLS-340 International Relations 3 cr.

SBSCI POLS GLP Fall and Spring Semesters

The global political system; influence of technology, ideology, ethnicity, national interests, power, morality, multinational business, international organizations, and economic, demographic and ecological patterns; approaches to managing war, violence, economic relations, global pollution and other international problems.

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Revised: May 2007

POWER Power

POWER-103 Power Mechanics 2 cr.

Internal and external combustion heat engines, mechanical and fluid transmission systems; present and future applications and limitations. Laboratory work emphasized.

POWER-260 Introduction to Fluid Power 2 cr.

Basic fluid mechanics, pneumatics, hydraulics, control systems and common industrial circuits.

POWER-303 Mechanical Power Transmission 3 cr.

Fundamentals of mechanical power transmission: theory of operation, selection of components, suggestions for application, and analysis of systems.

POWER-361 Industrial Hydraulics 2 cr.

Theory, operation and construction of hydraulic systems and circuits; pumps, reservoirs, lines, control valves and actuators.

POWER-362 Industrial Pneumatics 2 cr.

Theory, operation and construction of pneumatic and pneumatic/hydraulic system components, with application to basic industrial circuits; compressors, plumbing, control valves and actuators.

POWER-395 Seminar 1-2 cr.

Specific content is designed to upgrade competencies of participants. Content will change to reflect current state of the art in electricity/electronics or power mechanics. **R**

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Revised: July 2008

PSYC Psychology

PSYC-100 Psychology Seminar I — Foundations (1 cr.)

Fall and Spring

An orientation activity for all students in their initial semester as a psychology program student. Information concerning psychology as a discipline, applied profession, and liberal arts program is presented. Career and graduate training opportunities are reviewed.

PSYC-110 General Psychology (3 cr.)

SBSCI PSYC ESC Fall, Spring and Summer

An introduction to psychology as a discipline and applied science. Emphasis is placed on scientific methodology as it is applied to behavior, learning, memory, perception, motivation, development, individual differences, mental health, the physiological basis for behavior, and on the application of psychological principles to human experience.

PSYC-120 Psychology of Adjustment (3 cr.)

Fall and Spring

Principles, models and theories of psychology applied to understanding self, others, relationships and problems of contemporary life. Emphasis on healthy and effective personal and interpersonal life coping skills. Strategies and resources for confronting common life adjustment concerns.

PSYC-190 Psychological Research Methods (4 cr.)

Fall and Spring

An introduction to research methods used in the behavioral sciences. Lecture and laboratory activities involve applications of methodologies and computer technologies to understand and produce research compatible with American Psychological Association standards.

PSYC-210 Introduction To Applied Psychology (3 cr.)

ESB Fall and Spring

Introduction to the application of psychological theories, methods of investigation, and research findings to a diverse spectrum of social problems. Emphasis is placed on the use of scientific psychology to improve aspects of everyday life.

Prerequisites: take PSYC-110.

PSYC-251 Child Psychology (3 cr.)

Fall, Spring and Summer

A study of the total psychological development of children emphasizing age groups spanning the pre-school and pre-pubescent child and methods for scientific measurement and understanding of child behavior.

Prerequisites: take PSYC-110.

PSYC-270 Social Cognition and Behavior (3 cr.)

Fall and Spring

Social factors affecting the behavior, thought processes, and attitudes of individuals. Includes attitude assessment and change, prejudice, interpersonal attraction, social influence, aggression, cognitive biases, and attributions.
Prerequisites: take PSYC-110.

PSYC-280 Forensic Psychology, Law and Ethics (3 cr.)

Surveys the interface between psychology and law in relation to theoretical and applied cognitive, social, developmental and clinical areas. Psychologists' ethical responsibilities in improving legal, mental health, family and criminal law, and law enforcement domains included. Interventions for victims and offenders addressed. Cultural bias/fairness explored. Focused on United States.
Prerequisites: take PSYC-110.

PSYC-281 Environmental Psychology (3 cr.)

Spring

Psychological aspects of person/environment interaction. People impacts on environment, and environmental impacts on people. Aspects of recreational environment, population density and stress factors.
Prerequisites: take BIO-101 or BIO-111.

PSYC-290 Interpreting Psychological Research (3 cr.)

Fall and Spring

Interpretation and evaluation of quantitative statistical arguments presented in psychology- related journals, news, and political discourse; development of analytical and critical thinking skills related to statistical analyses and arguments; interpretation of APA style results sections, including correlation, regression, ANOVA, power and effect size.
Prerequisites: take PSYC-110 and PSYC-190 and STAT-130 or STAT-320.

PSYC-300 Psychology Seminar II - Career Preparation (1 cr.)

Exploration of postgraduation options for psychology majors. Development of skills and knowledge for seeking postgraduate employment and/or graduate school admission.
Prerequisites: take PSYC-100 and PSYC-110.

PSYC-320 Psychology: Its History and Systems (3 cr.)

Fall, Spring and Summer

History of psychology and influence of early competing schools of thought: structuralism, functionalism, behaviorism, Gestalt psychology, and psychodynamic psychology. Evolution to present as a diverse behavioral science with emphasis on neobehaviorism, humanistic psychology, and cognitive psychology.
Prerequisites: take PSYC-110; take 9 credits of PSYC.

PSYC-330 Psychology of Learning (3 cr.)

Fall

A course designed to acquaint the student with the principles of learning drawn from experimental and theoretical psychology. These principles are demonstrated as they apply to animal and human learning. Modern viewpoints toward theories of learning are emphasized.

PSYC-333 Drugs and the Brain (3 cr.)

Fall and Spring

Comparison of psychoactive drug classes, including drugs used for treatment of psychological disorders, recreational drugs, and illegal drugs, with focus on brain and behavior. Evaluation of role of psychological, biological, and sociological factors in drug use

and abuse.

Prerequisites: take PSYC-110.

PSYC-335 Motivation and Emotion (3 cr.)

Fall, Spring and Summer

An experimentally oriented introduction to the fundamental principles of motivation and emotion. Prerequisites: take PSYC-110; take 9 credits of PSYC.

PSYC-340 Psychology of Individual and Group Differences (3 cr.)

ESC Fall

Nature and extent of differences if individuals and groups are studied. Intelligence, achievement, aptitudes, interests, attitudes, and general personality are the major differences included. Race, sex, nationality, social class and age in relation to individual differences are studied. Prerequisites: take PSYC-110; take 2 courses from PSYC.

PSYC-351 Children's Social Reasoning (3 cr.)

ESC Fall

Focused, in-depth study of social reasoning from birth through late childhood. Empathy, friendship, altruism, multicultural perceptions, shyness, assertiveness, aggression, loneliness, morality, values, and global responsibility. Heredity/environment-based theories. Assessment tools and prevention and intervention programs.

Prerequisites: take PSYC-251, HDFS-124, HDFS-264, or PSYC-270.

PSYC-352 Adolescent Psychology (3 cr.)

Fall, Spring and Summer

The physical, emotional, social, moral, and intellectual development of secondary school youth.

Prerequisites: take PSYC-110.

PSYC-355 Clinical and Counseling Psychology (3 cr.)

Explores methods by which Clinical and Counseling Psychologists assess and treat psychological problems and promote well-being, applying various psychological theories and research. Addresses similarities/differences of the mental health professions in philosophy, perspectives, typical career choices/duties, and training/licensure requirements. Discusses professional issues and specialty areas.

Prerequisites: take PSYC-110.

PSYC-360 Personality Theories and Applications (3 cr.)

Spring

Definition of personality and analysis of historical and contemporary approaches to the study of personality. Examines personality theories, personality assessment, cultural and other group difference impacts on personality, applications of personality, and personality self-assessment.

Prerequisites: Take PSYC-110 and a minimum of 9 credits in PSYC.

PSYC-361 Abnormal Psychology (3 cr.)

Fall, Spring and Summer

A study of more serious mental disturbances. Emphasis on the growing importance of mental disorders and on their early detection and referral is studied.

PSYC-370 Interpersonal Effectiveness Training (2 cr.)

Fall, Spring and Summer

Training in effective interpersonal communication attitudes and skills for creating healthy relationships including self-awareness/self-expression, understanding others' communication, assertive rights/responsibilities, dealing with difficult emotions, conflict management/resolution and mediation, collaborative problem solving and teamwork, and gender differences in communication style.

PSYC-371 Introduction To Health Psychology (3 cr.)

Fall

Principles of psychology applied to the promotion of health and wellness; prevention of disease, injury and premature death; psychological treatment of illness; improvement of health care; and formation of health policies. Instructor's consent required. Prerequisites: take 10 credits of PSYC.

PSYC-372 Psychology of Sex and Gender (3 cr.)

ESC Spring

Differences and similarities between females and males; psychosocial implications on personal and political status and the resulting influence on identity and self-concept.

PSYC-375 The Psychology of Marriage and the Family (2 cr.)

Fall

A study of the interpersonal relations involved in dating, mating and family collaboration with growing awareness of patterns for self-integration.

PSYC-377 Consumer Psychology (3 cr.)

Fall

Psychological principles and theories from the areas of motivation, perception, learning, attitude, information processing, personality, groups, organizational psychology, and environmental psychology are applied to the understanding of consumer behavior, consumer problems, and their solution.

Prerequisites: take PSYC-110.

PSYC-379 Public Relations (2 cr.)

Fall, Spring and Summer

Introduction to public relations in industry and education including community relations, employee relations, customer relations, media relations, tools of public relations, two-way communications, and special publics.

PSYC-381 Industrial/Organizational Psychology (3 cr.)

Spring and Summer

Principles of industrial and organizational psychology with emphases on assessment of individual differences in cognitive, physical and interpersonal abilities as they relate to measurement of work performance, employee selection, training and development methods, and development of organizational methods for improved motivation, job satisfaction, leadership and organizational effectiveness.

Prerequisites: take PSYC-110.

PSYC-382 Human Resource Management (3 cr.)

ESC GLP Fall, Spring and Summer

Organization and coordination of personnel practices and methods. Consideration given to communication, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation of a diverse workforce employed in domestic and international settings.

PSYC-390 Experimental Psychology (4 cr.)

Fall and Spring

Experimental research methods used in basic and applied areas of psychology.

Methodological issues introduced in context of actual research problems for integrated treatment of content and methodology. Students will apply this knowledge by participating in laboratory activities and designing and conducting their own experiments.

Prerequisites: take STAT-130, PSYC-190.

PSYC-391 Applied Psychophysiological Methods (3 cr.)

Fall

Theory, methods, laboratory procedures, and applications of physiological responses to psychological stimuli.

Prerequisites: take BIO-132.

PSYC-401 Workshop: Special Topics in Psychology (1-3 cr.)

Current specialized topics studied in a small group setting utilizing experimental activities.

Instructor's consent required. **R**

PSYC-403 Management of Employee Reward Systems (3 cr.)

Fall, Spring and Summer

Review of issues in the reward and compensation of employees and of systematic methods for the determination of employee wages, incentives and benefits. Psychological theories of motivation, external equity, job analysis, identifying compensable factors used in job evaluation, comparable worth and performance appraisal, individual salary determination.

Prerequisites: take PSYC-382.

PSYC-432 Perception (3 cr.)

Fall

This course serves as an introduction to human perception. The content of the course is structured around an information processing model, with the sensory and memory facilities considered as information systems. The student will analyze perceptual research, become familiar with classical and modern psychophysical techniques and conduct experimentation in human information processing.

PSYC-442 Cognitive Processes (3 cr.)

Spring

Cognitive theories of attention, memory, language, reasoning and problem solving with applications to fields of education, vocational rehabilitation, gerontology, forensic, clinical and counseling psychology.

Prerequisites: take PSYC-110.

PSYC-451 Children's Learning (3 cr.)

Spring

Psychological study of basic learning processes in infants and young children. How and why learning occurs and how the course of learning can be modified; discussed from theoretical, research, and practical orientations including simple behavioral responses, concepts and language. Prerequisites: take PSYC-110.

PSYC-480 Individual Research Project I (1 cr.)

Fall and Spring

Preliminaries of active research through the development of a research proposal which includes the problem statement, review of the literature and the design of the research project. Prerequisites: take PSYC-210, PSYC-390. **R**

PSYC-481 Individual Research Project II (1 cr.)

Fall and Spring

Research in a personal area of interest within the behavioral sciences. Requirements include the completion of a research report which meets APA guidelines. Prerequisites: take PSYC-480. **R**

PSYC-485 Recruitment and Selection of Human Resources (3 cr.)

Fall, Spring and Summer

In-depth examination of the processes involved in the design and implementation of procedures for selecting employees; the impact these procedures have on the organization; and recruitment, job analysis, testing methods, legal issues, selection strategies, career development. Prerequisites: take PSYC-382.

PSYC-490 Psychological Measurement (3 cr.)

Spring

An introduction to the assumptions, models and applications of measurement techniques in behavioral science. Test analysis, item analysis, reliability, and validity are extensively covered. The course also introduces the student to prediction and measurement of attitudes and opinions.

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Revised: July 2010

RC Risk Control

RC-271 Safety Principles and Practices (3 cr.)

Principles of accident prevention; school safety programs; identification of resources and content: motor vehicle, home, public, farm, industrial, school, recreational and civil defense.

RC-301 Seminar (1-2 cr.)

Structured analysis of regulatory and curricular issues that traffic safety educators should be conversant with. **R**

RC-371 Alcohol, Drugs and Accident Prevention (3 cr.)

Impact of alcohol and drug use on accident prevention programs; current efforts to rehabilitate alcohol and drug abusers.

RC-372 Behavior Approach To Accident Prevention (3 cr.)

Behavioral aspects of accident prevention from physiological, psychological, sociological and cultural perspectives; identifying, understanding and modifying attitudes and behavior.

RC-374 Driver Education Laboratory Methods and Techniques (3 cr.)

Role, aims and objectives of laboratory programs in driver and traffic safety education; multiple- student teaching techniques, simulation on-street behind-the-wheel and multiple-car driving range experiences provided.

RC-375 Driver and Traffic Safety (3 cr.)

Classroom phase of driver education: curriculum selection and use, instructional resources and materials, and driver education administration.

RC-381 Principles of Occupational Risk Control/Safety (2-3 cr.)

Fall, Spring and Summer

An introduction to risk control/safety approaches which are intended to protect employee, property, legal, environmental, and financial-based assets through the development of internal practices/standards which promote the systematic anticipation, identification, analysis, and control of risks that are inherent to the operation.

RC-383 Occupational Safety Health and Environmental and Standards (3 cr.)

Fall and Summer

Understanding and proper application of a range of regulations and standards relating to occupational and environmental safety and health.

RC-386 Fire Protection (2 cr.)

Spring

Behavior of fire: chemistry, protection, prevention and control.

RC-387 Human Factors Engineering/Ergonomics (3 cr.)

Fall

Physiological and psychological abilities in human/machine interface, working performance, reliability, comfort and safety; effective design of people and work environment as a cybernetic system.

RC-388 Construction Safety (3 cr.)

Fall and Spring

An overview of construction safety and health, including identification of the most common occupational hazards associated with the construction industry. Emphasis is on evaluating hazards, choosing appropriate controls to protect workers, and developing strategies for implementing these controls into effective management systems.

RC-389 Fleet Risk Control Management (3 cr.)

Spring

Logistically-oriented management systems required to control risk in fleet operations including internal standards development/analysis, emergency response, accident analysis, loss benchmarking, driver selection and training, vehicle operation, substance abuse testing, hours of service, vehicle maintenance/inspection, route planning, cargo/ personnel security, hazardous materials transportation, and regulatory controls. Prerequisites: take RC-381 or RC-388.

RC-390 Product/Service Liability (2 cr.)

Spring

An analysis of product liability losses, laws and controls.

RC-392 Construction Risk Management (3 cr.)

Analysis and application of fundamental process steps for construction job site risk management. Prerequisites: take RC-388.

RC-395 Emergency Preparedness and Response (3 cr.)

Fall

Specific emergency response plans that meet federal, state and local regulations.

RC-440 Environmental Leadership and Sustainability Management (3 cr.)

Fall and Spring

Analysis and evaluation of topics related to environmental leadership and sustainability management. Environmental and sustainability issues and management challenges will be explored to promote cost-effective management strategies.

Prerequisite/Co-requisite: RC-383

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RD Design, Research and Development

RD-100 Introduction to Industrial Technology 1 cr.

Definition, history, and future of the industrial technology field and the present and emerging concentration areas. Business and industry links to options within industrial technology and the necessary preparation to meet graduates' future professional demands.

RD-205 Design for Industry 3 cr.

Industrial research and development experiences focusing on problems related to product development, innovation and problem solving, manual, semi-automatic and automatic production processes. Development and application of various systems for selection of materials and processing will be studied.

RD-320 Prototype Development and Model Making 3 cr.

Introduction to model making and prototype development/construction. Competencies are developed in converting design, research and development and other creative ideas into three-dimensional objects using traditional and non-traditional machining and forming techniques. Three-dimensional design problems form the core of this course.

Prerequisites: MFGT-110 or MFGT-150 or PKG-210.

RD-420 Research and Development 2 cr.

Research and development procedures applied to specific industrial material and processing problems.

RD-421 Research and Development Laboratory 1 cr.

This lab is taken in conjunction with RD-420 to allow students in technical majors to fulfill the requirements of the major research and design project.

Corequisite: RD-420.

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Reviewed: August 2010

REHAB Vocational Rehabilitation

REHAB-101 Introduction to Rehabilitation (3 cr.)

Fall and Spring

An introduction to serving people with disabilities. Philosophy, history, legislation, concepts and processes, and careers in rehabilitation services.

REHAB-102 Community Resources (3 cr.)

Fall and Spring

Role of community resources in rehabilitation.

REHAB-205 Rehabilitation Practicum (3-4 cr.)

Fall and Spring

Community based learning in application of rehabilitation concepts and principles. Includes weekly seminar for critique and skill development.

Prerequisites: take REHAB-101 minimum grade C; take REHAB-102 minimum grade C.

REHAB-230 Psychosocial Aspects of Disability (3 cr.)

ESC Fall and Spring

Subjective, objective, ethnic/cultural, and environmental factors related to the disability experience.

Prerequisites: take REHAB-101.

REHAB-300 Special Topics in Rehabilitation(1-2 cr.)

Special topics not available through regular courses. **R**

REHAB-300G Grantsmanship in the Helping Professions (1-2 cr.)

Summer

Explore grant writing in human service occupations and the necessity for such proposals as an element of change in society. Methods used to seek funding sources and evaluate requests for proposals.

REHAB-300N Community-Based Rehabilitation Services (1 cr.)

An examination of national priorities for community-based services designed to enhance competitive employment options for severely disabled persons.

REHAB-305 Sign Language I (3 cr.)

COMSK LANG Fall

Basic course in manual communication with persons who are deaf. Intensive practice in expressive and receptive communication.

REHAB-306 Sign Language II (3 cr.)

COMSK LANG Spring

Intermediate course in manual communication with persons who are deaf. American sign language, increasing sign vocabulary and communication speed.

Prerequisites: take REHAB-305.

REHAB-310 Vocational Evaluation (3 cr.)

Fall and Spring

Development of an individualized approach to conducting vocational evaluations with individuals with disabilities. Skill development in planning, selecting, and using assessment to OLS/techniques, and communicating findings.

Prerequisites: take REHAB-101 and REHAB-102.

REHAB-315 Rehabilitaiton and Criminal Justice (3 cr.)

Fall

Criminal justice system: Process and individual rights. Crime data and criminal law, policing, adjudication. Process roles of corrections and professionals. Disability:

Demographics, issues and responses.

REHAB-320 Rehabilitation and Chemical Dependency (3 cr.)

Fall

Chemical use and abuse with emphasis on the rehabilitation of persons who are chemically dependent and the historical and sociological implications of drug usage.

REHAB-321 Rehabilitation of Public Offenders (3 cr.)

Spring

Emphasis on programs designed to rehabilitate persons who are public offenders and sociological issues connected with the judicial system.

REHAB-325 Rehabilitation and Sensory Disability (3 cr.)

Introduction to persons with hearing and visual impairments or both. Methods and techniques used in sensory disability rehabilitation are discussed.

REHAB-327 Psychiatric Rehabilitation (3 cr.)

Fall

Goals and processes of psychiatric rehabilitation. Knowledge and application of skills for integrating diagnosis into planning and intervention with a focus on rehabilitation services for individuals with long-term mental illness in community-based settings.

Prerequisites: take PSYC-361 and REHAB-230.

REHAB-333 Adolescent Substance Use and Abuse (2 cr.)

Summer

Major concepts, current trends, and culturally sensitive approaches in the assessment, prevention and treatment of adolescent alcohol and drug addiction.

REHAB-350 Independent Living (2 cr.)

Fall

An overview of independent living programs in this country including evolution, goals, methods of service delivery, and management of the independent living program.

REHAB-351 Benefits Coordination: Practice and Application (3 cr.)

Summer

Benefits specialist's role and function; rehabilitation content applications. Benefits program requirements: process and application.

Prerequisites: take REHAB-102.

REHAB-355 Rehabilitation of the Older Disabled Worker (2 cr.)

Develop awareness and understanding of older disabled workers with a focus on implementing rehabilitation planning that enables continued participation in the work force or reinsertion into it following disability.

REHAB-360 Assistive Technology (2 cr.)

Spring

Provision of technology to enhance the lives of persons with disabilities. Delivery system, legislation, and issues related to funding are examined. Specific applications in communication, computers, mobility, and workstations and other technologies are reviewed.

REHAB-361 Microcomputer Applications in Rehabilitation (2 cr.)

Applications of microcomputer technology and adaptive devices in vocational evaluation, work adjustment, placement and administration.

REHAB-365 Laboratory in Rehabilitation Technology (2 cr.)

Spring

Experience utilizing technological aids/devices developed for persons with disabilities. Modify/adapt equipment to meet specific functional requirements. Construct switch/control mechanisms for equipment. Develop prototype solutions to vocational and independent living problems.

Prerequisites: take REHAB-360.

REHAB-401 Principles and Techniques of Caseload Management (2 cr.)

Fall and Spring

Principles and techniques of implementing case load management in service of clients of state vocational rehabilitation counseling agencies or rehabilitation facilities.

Prerequisites: take REHAB-230.

REHAB-402 Management of Non-Profit Organizations (3 cr.)

Spring

Principles and practices in the operation of non-profit organizations. Comparison of how non-profit and for-profit operations are affected by organizational structures and authority, budgeting practices, sources of income, personnel issues, strategic planning and program evaluation, and marketing. Application to community agencies.

REHAB-410 Job Placement Processes (3 cr.)

Fall and Spring

Placement theory and methods used to assist people with disabilities to obtain appropriate employment.

Prerequisites: take REHAB-230.

REHAB-420 Psychological Testing People With Exceptional Needs (2-3 cr.)

Fall, Spring and Summer

Use of common psychometric tests with specific emphasis on selection, evaluation, administration, scoring, and interpretation of standardized tests for individuals who are

disabled, including those from various ethnic and cultural groups.

REHAB-452 Group Processes in Rehabilitation Settings (2 cr.)

Fall

Theory and application of group processes in rehabilitation settings; direct experience as member and facilitator of a group.

REHAB-459 Workforce Development, Disability, and Socioeconomics (3 cr.)

Macro/micro influences that keep people unemployed and underemployed, including community, services, providers, employers, and families. Interface among legislative initiatives, disability, and life/work. Policy, strategies, and skills that promote effective intervention and change. Intended for professionals in the field.

REHAB-460 Rehabilitation in the Private Sector (3 cr.)

Spring

Case coordination to support maximum medical recovery and/or vocational rehabilitation of an injured person involved in insurance funded cases. Differences between public and private rehabilitation processes. Interviewing, planning, assessing transferable skills, placing in suitable work, and communicating with other involved individuals. Business practices, professional roles, and ethical issues.

Prerequisites: take REHAB-310.

REHAB-461 Forensics For the Human Service Professional (2 cr.)

Spring

Terminology and practices associated with forensic for human service professionals. Strategies and materials related to preparation for testimony and expert witness testimony in a court of law and other legal settings.

REHAB-462 Absence Management (3 cr.)

Spring

Orientation to workers with disabilities in business and industry. Focus on reducing disability related costs, and the elimination of attitudinal and environmental barriers as they pertain to hiring, productivity, and retention of workers with disabilities. Governmental requirements, linkage between business, community resources, and rehabilitation.

REHAB-470 Work Adjustment Services (2-3 cr.)

Fall and Summer

Principles and procedures of adjustment services. Emphasis upon the change and improvement of behavior. Supervised practical experience in interviewing, behavior observation, individual work adjustment planning, lesson plan development and report writing.

Prerequisites: take REHAB-310.

REHAB-480 Advanced Rehabilitation Practicum (2-6 cr.)

Fall and Spring

Advanced experience in service delivery to persons with disabilities in varied agency/ service settings related to student's designated rehabilitation concentration. Instructor's consent required. **R**

REHAB-482 Sexuality and Disability (2 cr.)

Spring

Investigate sexuality as an integral part of the disability experience. Explore programs, techniques and personal biases in relation to sexuality of persons with disabilities.

REHAB-483 Vocational Counseling Issues (2 cr.)

Summer

Theoretical and applied approaches to vocational counseling and current research in vocational choice and career development as related to vocational counseling.

REHAB-488 Developing Collaborative Partnerships (3 cr.)

Fall

Development of professional relationships that are characterized by collaboration and respect for the consumer or student. Role of team members including human service professionals, consumer student, family members, school personnel, and community organization staff in collaborative decision making. Enhanced service delivery responsiveness through application of collaborative principles.

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Revised: March 2010

SCIED Science Education

STMED-101 Introduction to Math and Science Education (2 cr.)

Fall

Overview of math and science education programs, roles and responsibilities of math and science teachers, state and professional standards, history of math and science education, professional resources, curriculum, instruction, assessment, and classroom management.

SCIED-301 Science Education Methods (3 cr.)

Fall

Methods of teaching science; theories and applications, issues and trends. Background check required.

SCIED-360 Science Education Curriculum and Assessment (3 cr.)

Fall

Curriculum and assessment for teaching science; theories and applications, issues and trends. Background check required.

SCIED-409 Broadfield Science Student Teaching (4-16 cr.)

Spring

Student teaching experiences in science education. Benchmark I completed. Senior Level or Higher.

SCIED-410 Biology Student Teaching (4-16 cr.)

Fall, Spring and Summer

Student teaching experience in biology. Benchmark II Completed.

SCIED-411 Chemistry Student Teaching (4-16 cr.)

Fall, Spring and Summer

Student teaching experience in chemistry. Benchmark II completed.

SCIED-412 Physics Student Teaching (4-16 cr.)

Fall, Spring and Summer

Student teaching experience in physics. Benchmark II completed.

SCIED-413 Broadfield Science Teaching Internship (4-16 cr.)

Fall, Spring and Summer

Internship experience in teaching broadfield science. Benchmark II completed.

SCIED-414 Biology Teaching Internship (4-16 cr.)

Fall, Spring and Summer

Internship Experience in teaching biology. Benchmark II completed.

SCIED-415 Chemistry Teaching Internship (4-16 cr.)

Spring

Internship experience in teaching chemistry. Benchmark II Completed.

SCIED-416 Physics Teaching Internship (4-16 cr.)

Fall, Spring and Summer

Internship experience in teaching physics. Benchmark II completed.

SCIED-488 Internship Teaching – Science Education (8-16 cr.)

Spring

Alternative to student teaching experience: licensed and salaried internship in a cooperating school. Benchmark II Completion. Senior Level or Higher.

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Revised: July 2010

SCOUN School Counseling

SCOUN-301 Introduction to Guidance (2 cr.)

Fall, Spring and Summer

Policies and practices of organized guidance programs in educational settings; historical, philosophical and cultural bases for guidance services; guidance techniques for teachers; cooperative efforts of teachers, parents and counselors.

SCOUN-400 Workshop: Counseling/Psychological Services (1-2 cr.)

Summer **R**

SCOUN-405 Emerging Issues in School Counseling (2 cr.)

Fall, Spring and Summer

Identify, explore and research issues and trends impacting practice and resources in school counseling. Student must be currently employed in a school setting or licensed to work in schools.

SCOUN-447 Emotional and Behavior Problems of Children and Adolescents (3 cr.)

Spring and Summer

Assessment, identification and evaluation of emotional and behavioral disorders of learners middle childhood through adolescence, including methods of observing, diagnosing, documenting and interpreting. Characteristics of emotional and behavioral disabled learners, including potential concomitant physical, cognitive, or sensory disabilities and psychological, social and environmental factors contributing to childhood emotional and behavioral disorders.

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Revised: July 2008

SMGT Sustainable Management

SMGT-115 Environmental Science and Sustainability (3 cr.)

The interrelationships between humans and the environment. Important ecological concepts, human influence on the environment, and sustainable practices to avoid or ameliorate negative impacts. Ecological concepts are used throughout to identify, understand, and provide a better understanding of how humans can more positively affect the environment in which they live. Prerequisites: B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-230 Triple Bottom Line Accounting for Managers (3 cr.)

Financial and managerial accounting and how this information is used. Basic preparation of financial statements and their analytical use. How accounting information is applied by managers in decision-making process helping organizations meet the triple bottom line: strong profits, healthy environment, and vital communities. Prerequisites: College Algebra. For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-235 Economics in Society and Sustainability (3 cr.)

Economic, social, and environmental issues facing society. Traditional issues such as markets and prices (microeconomics), government economic management (macroeconomics), and international trade. Introduction of economic content into analysis of selected topics such as poverty and discrimination, the environment, and the provision of government services. Critiques of conventional economic thought, within the context of systems thinking and ecological economics, and integrated throughout the course. Prerequisites: College Algebra. For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-240 Technical Writing for Sustainable Management (3 cr.)

The psychology and mechanics of written business communications are thoroughly explored and widely applied. Also included are non-written applications in such business areas as international/intercultural, nonverbal, and ethical communications. Prerequisites: For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-310 Ecology for Sustainable Management (3 cr.)

Interrelationships of organisms with each other and their environments. Investigation into composition and dynamics of populations, communities, ecosystems, landscapes, and the biosphere with emphasis on sustainability. Enrollment in online Sustainable Management degree program required. Prerequisites: B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-315 Global Environmental Chemistry (3 cr.)

An exploration of chemical environments as interdependent thermodynamic and kinetic

systems. The "system/surroundings" perspectives of thermodynamics will be applied to systems of progressively larger size in order to arrive at the comprehensive view of the global environmental system. Prerequisites: CHEM-115

SMGT-320 Energy for Sustainable Management (3 cr.)

Learn to apply basic engineering principles to existing and emerging energy technologies to provide a better understanding of energy production, consumption, and environmental impact; and how these principles relate to sustainable management. Topics cover a wide range of energy systems including nuclear, fossil fuels, wind, solar, biofuels and biomass. Prerequisites: Take CHEM-115.

SMGT-325 Natural Resource Management (3 cr.)

The interdependence between natural resources associated with land, air, and water. Explores significant environmental issues regarding the policies and problems in the use and management of natural resources related to soils, vegetation, landscape within the context of social needs and sustainability. Prerequisites: B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-330 Marketing for a Sustainable World (3 cr.) Analysis of an organization's opportunities to develop sustainability practices as they relate to the development of product, pricing, supply and distribution channels (retail, wholesale), promotion (advertising, sales promotion, public relations) and target markets. Prerequisites: Take SMGT-235. For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-331 Sustainable Organizational Finance (3 cr.)

Introduction to the theory and methods of sustainable organizational finance. Topics include financial statements; discounting and budgeting; uncertainty and risk/reward trade-offs; and assessing financial implications of the triple bottom line (e.g., climate change, carbon trading, human resource management, and creating environmentally-conscious shareholder value.) Prerequisites: Statistics, SMGT-230, and SMGT-325

SMGT-332 Economics of Environmental Sustainability (3 cr.)

Interaction between market activity and the environment, applies economic analysis to the efficient and sustainable management of environmental goods and resources, and examines how economic institutions and policies can be changed to bring the environmental impacts of economic decision-making more into balance with human desires and the needs of the ecosystem. Prerequisites: Take SMGT-235. For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-335 Management and Environmental Information Systems (3 cr.) Use of the computer as a problem-solving tool, as part of data processing systems; information systems and decision support tools for managers; information systems planning and development; overview of computer hardware, software, database management, networking and web technologies; green data centers; energy efficient trends in information technology; data and information usage in green businesses. Prerequisites: Take Statistics and SMGT-230.

SMGT-340 Organizational Behavior and Sustainability (3 cr.)

Management principles and theories underlying human behavior in organizations are investigated. Topics include personality, motivation, communication, decision-making,

leadership, teamwork, ethics, power, diversity, and work stress. Constraints and opportunities of an "eco" friendly organization and realized. Prerequisites: Introductory Speech/Communication course. B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-350 Operations Management and Sustainability (3 cr.)

The role of the operations function in an organization; linear programming; continuous and intermittent production processes; aggregate planning; inventory control; materials management; scheduling; project management; quality assurance; operations for green enterprises. Prerequisites: Take STAT-130 and MATH-120, or obtain advisor's consent.

SMGT-360 Environmental and Sustainability Policy (3 cr.)

Topics include the spectrum of historical, theoretical and technical issues applicable to sustainable management of natural resources, environmental quality standards and risk management. Administrative structures that form the basis for selecting appropriate responses to complex management problems faced by industry, government and non-governmental agencies and identified. The historical development and current framework of public policy are investigated, and specific foundational legislation is critiqued.

Prerequisites: Take SMGT-115; for B.S. in Sustainable Management majors only or permission of Sustainable Management program director.

SMGT-370 Logistics, Supply Chain Management, and Sustainability (3 cr.)

Concepts, functions, processes, and objectives of logistics and supply chain management activities. Activities involved in moving raw materials, inventory, and finished goods from point of origin to point of use or consumption. Planning, organization and controlling such activities. The role of supply chain processes in creating sustainable competitive advantage with respect to quality, flexibility, lead-time, and cost. Customer service, inventory management, transportation, warehousing, supply; chain management, reverse logistics, green supply chains, and international logistics. Prerequisites: Take SMGT-350

SMGT-430 International Management for Sustainable World (3 cr.)

Analysis of the theory and practice of managing international organizations. This includes socio-cultural aspects and group dynamics of international business and service organizations through the study of sustainable management practices - strong profitability, healthy environment, and vital communities. Prerequisites: Take SMGT-235. For B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-435 International Development and Sustainability (3 cr.)

Historical roots of the idea of development, economic theories of growth and their implications for sustainability, and interrelationships, between population growth, food security, poverty, inequality, urbanization, technological change, international trade and environmental change at local, regional and global scales. Contemporary issues and alternatives. Prerequisites: B.S. in Sustainable Management majors only or permission of Sustainable Management program director. Obtain valid permission number for registration.

SMGT-440 Systems Thinking (3 cr.)

Use of systems thinking to apply the concept of sustainability in various business, social, and scientific contexts. Rather than looking at a problem by analyzing component parts, students learn to analyze whole systems. Students model relationships and behaviors to identify leverage points for change.

SMGT-460 Environment and Society (3 cr.)

Introduce the fundamentals of human-environmental interaction; a grasp of how these interactions create problems; and how the elements of social, technological, and personal choices combine to overcome them. Prerequisites: Take SMGT-115; for B.S. in Sustainable Management majors only or permission of Sustainable Management program director.

SMGT-495 Sustainable Management Capstone (3 cr.)

Application and study of sustainable management through the solution of an industry-based project. Implementation of a triple-bottom line solution to industrial or community-based problems will be emphasized. Prerequisites: Must be senior level and obtain permission number for registration.

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Revised: January 2010

SOC Sociology

SOC-110 Introductory Sociology (3 cr.)

SBSCI/SOC, ESC, GLP

Fall, Spring and Summer

Social interaction in human groups; relationships between individual and group; social inequality; basic social institutions, social change and current social trends; the sociocultural diversity of groups; the infrastructure and interrelationships of social organizations; and alternative theoretical perspectives for explaining these social phenomenon.

SOC-225 Social Problems (3 cr.)

SBSCI/SOC, ESB, GLP

Sociological analysis of current social problems in the U.S. and the world.

SOC-250 Social Psychology (3 cr.)

Spring

Theory and application of social interaction; emphasis on communication.

SOC-275 Sociology of Gender Roles (3 cr.)

ESB

Fall and Spring

Sociological analysis of social roles played by the sexes.

SOC-315 Criminology (3 cr.)

Fall and Spring

Sociological analysis of structure and function of criminal law, variables of criminal behavior and operation of criminal justice system.

Prerequisites: take SOC-110.

SOC-325 Sociology of Leisure (3 cr.)

Fall and Spring

Institutional approach to effects of leisure on social structure; values reflected in leisure; problems with increase in leisure resources.

SOC-340 Sociology of Work (3 cr.)

ESC

Fall and Spring

Human behavior in various types of employment and occupations; trends in U.S. occupational structure.

SOC-350 Sociology of Hmong Culture (1 cr.)

ESA

Sociological overview of Hmong cultural values, history, immigration and resettlement experiences, family and clan functions, and spiritual beliefs and practices. \$

SOC-360 Sociology of Juvenile Delinquency (3 cr.)

Fall and Spring

Theories of delinquency, criminal behavior, and social control in relation to modern institutions in American culture.

Prerequisites: take SOC-110.

SOC-375 Sociology of Minority Groups (3 cr.)

ESA, GLP

Fall and Spring

Social/psychological aspects of interaction between majority and minority groups; trends among minorities in the United States.

SOC-400 Sociology of Altruism (3 cr.)

SBSCI, SOC

Fall

Sociological perspective of altruism explored in the context of volunteer public service, and biographies of exemplary public service participants. Acceptance Into Honors Program.

SOC-410 Sociology of Thailand's Minority Groups: Study Abroad Program (4 cr.)

Study abroad program to Thailand. In-depth experiential learning of Thai minority cultures, including religions, socio-political status, Buddhism, health, education, trafficking of women and children, limited citizenship status, and poverty. Field trips to villages, non-governmental agencies, schools, and clinics.

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Revised: January 2007

SOCWK Social Work

SOCWK-205 Introduction to Social Work 3 cr.

Fall and Spring Semesters

Social work as a profession; history and philosophy of social services; information for teachers, counselors and those interested in the field. P: SOC-110.

SOCWK-420 Child and Family Agencies 3 cr.

Fall and Spring Semesters

Social and legal status of children in American society; various social services designed to optimize child's growth and development; nature and needs of families; family service agencies. P: SOC-110.

SOCWK-430 Social Casework Methods 3 cr.

Dynamics of social casework: mobilizing individual capacities and community resources to promote adjustment between client and environment; social change. P: SOC-110.

SOCWK-440 Social Work With Groups 3 cr.

History and contemporary theories of social work with groups and communities; topics include group leadership, group dynamics, treatment and task groups.

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Revised: February 2006

SPAN Spanish

SPAN-103 Elementary Spanish I (4 cr.)

COMSK LANG ESB FGLP Fall and Spring

Understanding, speaking, reading and writing in Spanish. Culture of Spanish-speaking peoples, including those in the United States. Grammatical gender, present and past tense verbs, pronouns, adjectives. Supplementary work with audiotapes and computers. Not available for credit to students who took SPAN-121 or SPAN-122. Only one Spanish course counts toward Ethnic Studies.

SPAN-104 Elementary Spanish II (4 cr.)

COMSK LANG ESB FGLP Spring

Second level of understanding, speaking, reading and writing in Spanish. Topics in the culture of Spanish-speaking people, including those in the United States. Compound verb tenses, the subjunctive and commands. Supplementary work with audiotapes and computers.

P: One year of high school Spanish or SPAN-103 required or SPAN-122.

SPAN-121 Practical Spanish I (2 cr.)

ESB FGLP Fall, Spring and Summer

Pronunciation, basic phrases for everyday situations, comprehension and production of short written and spoken sentences, basic grammar summary, introductory vocabulary, language in Hispanic and Hispanic-American cultural context. Not available for credit to students who took SPAN-103. Only one Spanish course counts toward Ethnic Studies.

SPAN-122 Practical Spanish II (2 cr.)

COMSK LANG ESB FGLP Fall, Spring and Summer

Second quarter college Spanish. Vocabulary, conversational patterns, irregular present tense verbs, regular and some irregular preterite verbs; object pronouns. Spanish language in the context of Hispanic culture. Not available for credit to students who took SPAN-103. Only one Spanish course counts for Ethnic Studies.

P: One semester of high school Spanish or SPAN-121 required.

SPAN-201 Intermediate Spanish I (4 cr.)

HUM FLC ESB FGLP Fall, Spring and Summer

Extensive development of vocabulary including common idioms, aural comprehension, correct pronunciation and recognition of verb tenses. Readings and class discussion based on historical background and contemporary Hispanic life, including Hispanic culture in the United States. Only one Spanish course counts for Ethnic Studies.

P: Two years of high school Spanish or SPAN-104 required.

SPAN-202 Intermediate Spanish II (4 cr.)

COMSK LANG FGLP Fall, Spring and Summer

Complete grammar review of standard Spanish, applicable to both conversational situations and business or personal correspondence. Review of essential vocabulary and

phrases. Accuracy and fluency in spontaneous conversation and free composition.

P: SPAN-104 or three years of high school Spanish .

SPAN-227 Spanish Composition and Conversation I (2 cr.)

COMSK LANG ESB FGLP Fall

Fifth semester college Spanish. Advanced grammar review. Introduction to composition. Writing paragraphs and short essays. Advanced conversation. Emphasis on native-like pronunciation, vocabulary and structural fluency. Only one Spanish course counts as Ethnic Studies.

P: Four years of high school Spanish or SPAN-202 required.

SPAN-229 Hispanic Literature in America (2 cr.)

HUM FLC ESB FGLP Fall and Spring

Sixth semester college Spanish. Themes and techniques of Hispanic literature. Vocabulary in Spanish for discussion of a variety of literary genres. Historical and cultural contexts. Emphasis on increasing oral and written fluency in Spanish.

P: Four years of high school Spanish or SPAN-202 required. **R**

SPAN-304 Latin American Short Story (2 cr.)

HUM FLC FGLP Fall

Introduction to the 20th and 21st century Latin American short story. Vocabulary and readings in Spanish of prominent authors and distinct literary periods of this genre. Related historical and cultural contexts. Taught in Spanish.

P: SPAN-202 or equivalent.

SPAN-318 Cinema for Spanish Proficiency (2 cr.)

Sixth-semester college Spanish course on topics for language practice. Outstanding films from the Spanish-speaking world on themes of cultural relevance; advanced composition; advanced conversation and discussion. Taught in Spanish.

P: SPAN-103, SPAN-104, SPAN-201, SPAN-202, SPAN-227, and SPAN-229.

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SPCOM Speech Communication

SPCOM-100 Fundamentals of Speech (2 cr.)

COMSK Fall, Spring and Summer

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

SPCOM-101 Forensics (1-2 cr.)

Fall and Spring

Training in speech through instruction in and application of the principles used in intercollegiate forensics program: oral interpretation and original and limited- preparation events. **R**

SPCOM-102 Forensics (1-2 cr.)

Fall and Spring

Training in speech through instruction in an application of the principles used in intercollegiate forensics program: oral interpretation and original and limited- preparation events.

Prerequisites: take SPCOM-101. **R**

SPCOM-103 Forensics (1-2 cr.)

Fall and Spring

Training in speech through instruction in an application of the principles used in intercollegiate forensics program: oral interpretation and original and limited- preparation events.

Prerequisites: take SPCOM-102. **R**

SPCOM-104 Forensics (1-2 cr.)

Fall and Spring

Training in speech through instruction in and application of the principles used in intercollegiate forensics program; specific emphasis on forensics administration.

Prerequisites: take SPCOM-103. **R**

SPCOM-200 Persuasive Speaking (2 cr.)

COMSK Fall, Spring and Summer

Advanced techniques of speaking; develop skill in audience analysis, speech composition and delivery of various types of speeches; recognize techniques used daily toward individuals and groups.

Prerequisites: take SPCOM-100.

SPCOM-206 Discussion (2 cr.)

COMSK Fall and Spring

Principles and techniques of discussion; leading and participating in symposium, panel, roundtable and other discussion forms.

SPCOM-208 Theory of Communication (3 cr.)

COMSK Fall and Spring

How people communicate with each other; interpersonal, social, technical and business communication, monographs of various communication theorists.

Prerequisites: take SPCOM-100.

SPCOM-210 Interpersonal Speech Communication (2 cr.)

COMSK Fall and Spring

Basic aspects of non-structured, informal speech communication; expression of feelings and intentions and processing of relationships.

SPCOM-236 Listening (2 cr.)

COMSK

Theoretical analysis and practical application of listening concepts. Emphasis on assessment of individual listening skills and methods of improving personal listening techniques used in occupational and personal relationships.

SPCOM-308 Speech Skills For Business and Industry (2 cr.)

Fall, Spring and Summer

Technical speaking; projects in application of speech skills and activities in business and industry.

SPCOM-312 Intercultural Communication (2 cr.)

ESB, GLP Fall and Spring

Communication concepts and strategies in a multi- cultural society with emphasis on the major United States cultural groups: understanding communication norms in one's culture of origin and developing a functional appreciation of the diversity of communication standards among cultures. Prerequisites: take SPCOM-100.

SPCOM-350 Nonverbal Communication (3 cr.)

Spring

Nonverbal communication skills. Theories and research involved in understanding and applying nonverbal skills in personal, professional, and technologically-enhanced environments.

SPCOM-400 Special Topics in Communication Seminar (1-3 cr.)

Current issues or historical topics related to communication. Specific topic will be advertised prior to semester offered. Course may be repeated three times with different topics or issues. Junior level or higher required.

Prerequisites: take SPCOM-100.

SPCOM-414 Interviewing (1 cr.)

Fall and Spring

Principles and techniques for interviewee in employment interviews.

SPCOM-425 Informational Interviewing Skills for Professionals (1 cr.)

Theories and methodologies used in the collection and interpretation of data for research and professional development purposes.

Prerequisites: take SPCOM-100.

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SPED Special Education

SPED-100 Introduction To Special Education 1 cr.

Fall

Introduction to the special education profession. Survey of the history, philosophy, mission, legislation, issues, organization, and resources associated with the profession; and introduction to the professional standards and content guidelines.

SPED-300 Introduction To Individuals With Cognitive Disabilities 3 cr.

Fall

Introduction to etiology of mental retardation; psychological, educational, social and vocational aspects; adjustment techniques used in working with mentally retarded persons.

SPED-301 Learning Disabilities 3 cr.

Spring

Identification, remediation and evaluation of learning disabled; intervention techniques used with adolescents and adults.

SPED-305 Introduction to Early Childhood Special Education 2 cr.

Summer

Introduction to the history and purposes of EC-SE programming, legislation, population receiving services, family intervention, intervention models and issues.

Prerequisites: take SPED-430 and HDFS-124.

SPED-310 Methods, Materials and Curriculum for the Exceptional Child 3 cr.

Fall

Curricular and methodological adaptation for young children with exceptional educational needs in the areas of social-emotional development, manipulative and motor skills, self-help skills, communication, cognitive development, and creative expression. Admission to Early Childhood Special Education Certification track.

Prerequisites: take SPED-305.

SPED-315 Early Childhood Special Education Programming 3 cr.

Spring

Organization and implementation of Early Childhood Special Education programs, including service delivery, program models, consultation and collaboration, and intervention agents.

Prerequisites: take SPED-305 and SPED-310.

SPED-318 Introduction to Teaching and Assessment in Special Education 2 cr.

Fall, Spring and Summer

Provides one-on-one, supervised experience in teaching youth with exceptional education need (EEN). Provides the initial opportunity for the student to teach a young person with EEN in a supervised setting for 50 hours.

SPED-320 Early Childhood Exceptional Educational Needs Assessment 2 cr.

Summer

Assessment and diagnosis of the young child with a suspected disability. Norm referenced, criterion referenced, and play-based assessment in the following areas: cognitive, motor, speech/language social/emotional, and family. Admission to Early Childhood Special Education Certification track. Prerequisites: take SPED-315.

SPED-322 Curriculum and Instruction: Severe Disabilities 2 cr.

Spring

Curriculum and instruction strategies for teaching functional academics, personal/social, vocational, and community living skills to individuals with severe and profound disabilities. Benchmark I completed.

Prerequisites: take SPED-300 and SPED-430.

SPED-323 Mild Disabilities: Social Studies and Science 3 cr.

Fall and Spring

Curriculum and methods of teaching students with mild cognitive, learning, and emotional/behavioral disabilities in the content areas of social studies, science and in general education. Strategies that facilitate integration, improve maintenance and generalization of skills, promote transitions, increase self-awareness and self-management, and compensate for learning deficits. Benchmark I completed.

Prerequisites: take SPED-300, SPED-301, and SPED-430.

SPED-324 Curriculum and Instruction: Career and Transition Education 3 cr.

Fall

Curriculum and instruction for persons with disabilities in prevocational, career education, career preparation, and transition, stressing collaboration between education, community-based service providers, and families. Benchmark I completed.

Prerequisites: take SPED-300 and SPED-430.

SPED-326 Pre-Student Teaching: Cognitive Disabilities 2 cr.

Fall

Supervised experience in observing, planning instruction, and teaching children and youth with cognitive disabilities in a cross-categorical school environment. Repeatable three times for credit. Benchmark I completed.

Prerequisites: take SPED-300.

SPED-328 Assessment for Individual Education/ Transition Plans 3 cr.

ESC Fall, Spring and Summer

Diagnosing behavior and learning problems of students with exceptional education needs. Preparing individual educational and transitional plans based on comprehensive assessments. Benchmark I completed.

SPED-330 Introduction To Communication Disorders 3 cr.

Fall

Nature, causes of and methods used when working with individuals who have speech and language disorders.

SPED-338 Pre-Student Teaching Children/Youth With Disabilities 2 cr.

Fall, Spring and Summer

Supervised experience in observing, planning instruction, and teaching children and youth with disabilities in a cross-categorical school environment.

SPED-400 Workshop: Topics in Special Education 1-3 cr.

Summer

Current specialized topics studied through experiential activities.

SPED-410 Adaptive Angler Education 1 cr.

Summer

Methods of teaching basic and adapted fishing skills to individuals with disabilities.

Successful completion results in Wisconsin DNR Angler Education Instructor certification.

SPED-420 Schools, Families and Community Collaboration 3 cr.

Theory, general principles and procedures for fostering collaborative partnerships among families, professionals, students and other service providers. Focuses on families with children who have disabilities. Benchmark I Completed.

SPED-430 Inclusion of Students With Exceptional Needs 3 cr.

Fall, Spring and Summer

Inclusion of students with exceptional educational needs in the regular classroom setting. Laws, definition, characteristics, adaptations, strategies and transitional services that pertain to persons identified with: cognitive disability, learning disability, attention deficit hyperactivity disorder, emotional disability, autism, traumatic brain injury, speech and language disorders, visual and hearing loss, physical and other health impairments, and gifted and talented.

SPED-440 Diagnosis and Remediation of Literacy And Math Disabilities 4 cr.

Curriculum, methods, assessment and remediation of teaching reading, math, and language to individuals with mild disabilities. Strategies that assess and evaluate, monitor progress, increase, maintain and generalize skills, facilitate integration, and compensate for learning deficits in the general and special education curricula.

Benchmark I Completed. Prerequisites: take EDUC-380 EDUC-381 EDUC-382.

SPED-447 Emotional and Behavioral Problems of Children and Adolescents 3 cr.

Spring and Summer

Assessment, identification and evaluation of emotional and behavioral disorders of learners middle childhood through adolescence, including methods of observing, diagnosing, documenting and interpreting. Characteristics of emotional and behavioral disabled learners, including potential concomitant physical, cognitive, or sensory disabilities and psychological, social and environmental factors contributing to childhood emotional and behavioral disorders.

SPED-462 Classroom Management Techniques 3 cr.

Spring

Techniques for motivating handicapped youth, individual and group discipline, behavior modification, educational organization, evaluation, and communication to enhance learning. Benchmark I completed.

SPED-481 Student Teaching: Special Education 4-16 cr.

Fall and Spring

Directed special education teaching and community experience in selected off-campus schools. School of Education permission required.

Prerequisites: take SPED-318, SPED-326, and SPED-462.

SPED-482 Student Teaching Early Childhood -- Special Education 4-8 cr.

Directed teaching and community experiences in selected infant-toddler, preschool, or school based programs for children with disabilities. Admission to Early Childhood Special Education Certification track. Prerequisites: take SPED-320 and SPED-430.

SPED-488 Intern Teaching: Special Education 16 cr.

An alternative method of obtaining Special Education student teaching experience. Interns receive license to teach and salaried appointment in a cooperating school for one semester. School of Education permission required.

Prerequisites: take SPED-322, SPED-323, SPED-324, SPED-326 and SPED-462.

SPED-489 Intern Teaching Early Childhood: Special Education 8-16 cr.

Directed teaching and community experiences in selected infant, toddler, preschool, or primary school-based programs for children with disabilities. **R**

Prerequisites: take SPED-320.

SPED-490 Behavioral Interventions in the Schools 2 cr.

Fall and Spring

Study and practice in Functional Behavioral Assessment and Behavioral Intervention Planning for individualized behavior problems in the PK-12 educational setting using both a direct-service and consultation-collaboration model. Focus on assessment skills to produce data-driven environmental modifications, pro-social replacement behaviors, consequence strategies, and home-school interventions.

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SPSY School Psychology

SPSY-490 Behavioral Interventions in the Schools (2 cr.)

Study and practice in Functional Behavioral Assessment and Behavioral Intervention Planning for individualized behavior problems in the PK-12 educational setting using both a direct-service and consultation-collaboration model. Focus on assessment skills to produce data-driven environmental modifications, pro-social replacement behaviors, consequence strategies, and home-school interventions.

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SRVM Service Management

SRVM-111 Introduction To Global Service (3 cr.)

GLP

Principles of service management with emphasis on trends, career opportunities, and global economic impact of service sectors.

SRVM-210 Service Operations Management (3 cr.)

Examination of the environment in which services operate. The design of service delivery systems is addressed from the perspective of both customer participation and operations efficiency.

SRVM-260 Managing Service Learning (3 cr.)

Manage service-learning systems that respond to community needs. Address the perspectives of not-for-profit and for-profit delivery systems.

SRVM-346 Seminar in Service Management (1 cr.)

Definition and analysis of high performance service management best practices.

SRVM-354 Service Marketing Management (3 cr.)

Marketing management concepts, issues and terminology unique to the service sector. Strategies used by service marketers will be analyzed and contrasted with other economic sectors. Prerequisites: take HT-344 or BUMKG-330.

SRVM-398 Service Management Field Experience (1-2 cr.)

Off-campus work and study in an approved position to better understand the challenges and potentials of various careers in the hospitality area.

SRVM-410 Electronic Service Management (3 cr.)

Overview, identification, and evaluation of service management components of electronic commerce relationships within the market/ workplace.

SRVM-420 International Service Concepts (3 cr.)

GLP

National and cultural constraints and expectations that impact planning, execution, and evaluation of service quality. Cultural, business, managerial and behavioral foundations supporting success in an international service context. Prerequisites: take SRVM-111.

SRVM-421 Customer Interaction Center Management (3 cr.)

Introduction to evaluation, design, maintenance, and management of online telephone technology to provide customer service solutions for industry in customer interaction centers.

SRVM-481 Special Problems in Service Management(1-3 cr.) R

SRVM-498 Service Management Field Experience (1-2 cr.)

Off-campus work and study in an approved position to better understand the challenges and potentials of various careers in the hospitality area. Must Have 90 Credits Completed.

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STAT Statistics

STAT-130 Elementary Statistics 2 cr.

ANRSN STAT

Fall, Spring and Summer

Concepts and application of probability and statistics: data analysis (graphical displays, numerical summary measures); probability and probability distributions; concepts of statistical inference (estimation and hypothesis testing). Illustrated with output from statistical computing packages.

STAT-320 Statistical Methods 3 cr.

ANRSN STAT

Fall and Spring

Methods of describing data: graphical methods, numerical summary measures, exploratory data analysis. Probability, probability distributions, expected value. Sampling distributions. Statistical inference: estimation and hypothesis testing for one-sample and two-sample problems. Regression analysis. Demonstrating with standard statistical software packages.

STAT-330 Probability and Statistics for Engineering and the Sciences 3 cr.

Fall and Spring

Exploratory data analysis; basic probability, probability distributions, mathematical expectation, sampling distributions; basic statistical inference (estimation and hypothesis testing); topics in reliability.

Prerequisites: take MATH-154 or MATH-157.

STAT-331 Probability and Mathematical Statistics I 3 cr.

Fall

Sample spaces. Probability functions for discrete and continuous sample spaces. Conditional probability and independence. Random variables; probability density and cumulative distribution functions; joint, marginal, and conditional distributions. Expected values, moments, and moment-generating functions. Binomial, hypergeometric, Poisson, normal, and gamma distributions.

Prerequisites: take MATH-154 or MATH-157. Prerequisite or concurrent enrollment in Math-158.

STAT-332 Probability and Mathematical Statistics II 3 cr.

Spring

Point estimation. Properties of point estimators: unbiasedness, efficiency, consistency, sufficiency. The method of maximum likelihood. Basic concepts of interval estimation and hypothesis testing. Inference in one-sample and two-sample problems. Simple linear regression analysis; the method of least squares. Goodness-of-fit tests. Analysis of categorical data.

Prerequisites: take STAT-331.

STAT-337 Design of Experiments I 2 cr.

Fall

Linear and curvilinear regression, single-factor designs, confidence ellipsoids for means,

blocking, Latin and other squares, factorial designs.

Prerequisites: take STAT-332.

STAT-338 Design of Experiments II 2 cr.

Spring

Fixed-effect, random-effect and mixed models; nested and nested-factorial designs, split-plot designs, confounding in blocks, analysis of covariance, response surfaces, sequential analysis.

Prerequisites: take STAT-337.

STAT-440 Advanced Linear Modeling-Regression and Time Series Analysis 3 cr.

Fall

Multiple regression, inference about regression parameters, remedial regression measures, quantitative and qualitative regression, model selection/validation, nonlinear regression, neural networks, logistic and Poisson regression, generalized linear models, time series, smoothing, stochastic time series, moving average and autoregressive models, auto regressive integrated moving average (ARIMA), estimating and forecasting with time series.

Prerequisites: take STAT-332.

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STMED Science, Technology and Mathematics Education

STMED-160 Introduction to Technology and Science Education (3 cr.)

Fall and Spring

Survey of technology and science teaching including teachers' responsibilities, history, curriculum, literature, current issues and organizations associated with the profession and teaching within K-12 schools.

STMED-260 Curriculum, Methods, and Assessment for Science and Technology (3 cr.)

Foundation in science and technology education curriculum and assessment that includes mission, goals, content, learning outcomes, behavioral objectives, and assessment items.
Prerequisites: take STMED-160.

STMED-390 Laboratory and Classroom Management in Science and Technology (3 cr.)

Fall, Spring and Summer

Laboratory and classroom management strategies, conflict resolution, syllabi, paperwork, grading, communication, managing facilities and equipment, purchasing, maintenance, storage, lab and material safety, safety equipment, liability, and negligence.
Prerequisite: Benchmark I completed.

STMED-401 Capstone: Mathematics and Science Education (1 cr.)

Synthesis of material learned in the math and science education programs and study of educational research, evidence-based practice, and professional development.
Prerequisite: Benchmark I completed.

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SUST Sustainability

SUST-315 Sustainable Engineering (3 cr.)

Impact of engineering and design/manufacturing decisions on the environment. Topics include: sustainability, energy and material flows, risk assessment, multi-use product life cycles, manufacturing process waste streams, sustainable product design issues, end-of-life product handling, and pollution prevention techniques. Junior or higher standing required.

SUST-425 Sustainable Design and Development Capstone (3 cr.)

An application and study of sustainable design and development through the solution of a community-based project. Design of a triple bottom line solution to industrial problems will be emphasized.

Prerequisites: take SUST-315 or DES-431.

SUST-432 Global Sustainability Experience in Design and Manufacturing (3 cr.)

Cross-disciplinary exploration of ecologically friendly design, engineering, manufacturing, and business models. International travel component with corporate, cultural, academic, and civic leaders. Cultural, economic and political influences; product design; manufacturing; sustainability; application of current eco-friendly product design models; research topics; regional global visitation; studio and laboratory experiences; project and presentation. Junior or higher standing required.

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Reviewed: May 2008

TECED Technology Education

TECED-160 Introduction to Technology Education 3 cr.

Fall and Spring Semesters

Survey of the history, philosophy, mission, curriculum, methods, organizations and resources associated with technology education.

Prerequisite: TECED-160

TECED-205 Teaching Methods Technology/Vocational Education 2 cr.

Fall, Spring and Summer

Study of teaching methods in use in youth and adult shop classes. Instruction planning; lesson presentation with video tape equipment; methods of organization and management; instruction aids; professional ethics.

Prerequisite: TECED-160.

TECED-260 Curriculum, Methods, and Assessment For Technology Education 3 cr.

Fall Semester

Development of rationales, goals, content outlines, outcomes, objectives, activities, and assessment items.

Prerequisites: TECED-160.

TECED-325 Technology for Elementary School Children 2 cr.

Fall, Spring and Summer

Development, philosophy, objectives and course organization for industrial arts for the elementary schools. Suitable laboratory work in woods, metals, plastics and drawing.

TECED-330 Implementing Technology Education 3 cr.

Fall, Spring and Summer

Converts the theory of contemporary technology education programs into instructional materials, facilities, and strategy suited to the secondary and post-secondary school.

TECED-333 Planning Technical/Vocational Laboratories 2 cr.

School shop facility planning: equipment selection, placement, care and management.

Prerequisite: TECED-405.

TECED-340 Middle School Technology Education 2 cr.

Fall, Spring and Summer

Reviews trends and activities in the technology education movement. To update instructors to teach middle school offerings.

TECED-360 Pre-Student Teaching in Technology Education 1 cr.

Fall and Spring Semesters

Observing, experiencing, evaluating, and analyzing teaching and learning in public school settings.

Prerequisites: take TECED-160.

TECED-375 Workshop 1-3 cr.

Current specialized topics in industrial education through experiential activities.
Instructor's consent required.

TECED-398 Field Experience 1-2 cr.

Fall, Spring and Summer

TECED-398E Field Experience 1 cr.

Fall, Spring and Summer

TECED-403 Activities in Technology/Vocational Education 2 cr.

A study and design of learning activities for industrial and vocational education. Learning activities will be developed on selected levels of the cognitive, psychomotor, and affective domains to carry out stated behavioral objectives. An evaluation of the appropriateness of learning activities as presented in contemporary curriculum projects.

TECED-406 Evaluation in Technology/Vocational Education 2 cr.

Fall, Spring and Summer

For industrial arts and vocational/technical teachers in evaluating program and student performance: basis for student assessment, evaluation of manipulative activity and construction of teacher-made tests as applied to all students (including those with special needs). Student evaluation of instructor and instruction.

Prerequisite: TECED-205.

TECED-408 Student Teaching Technology/Vocational Education 8 cr.

Fall and Spring Semesters

Directed teaching and community experiences in selected off-campus schools. Satisfactory health, speech and English. Cumulative GPA of 2.25 or better.

TECED-409 Student Teaching Technology Education 4-16 cr.

Fall, Spring and Summer

Directed teaching and community experiences in selected off-campus schools. SOE permission required. Satisfactory health, speech and English.

Benchmark II completed.

TECED-431 Field Trips to Industry 1-3 cr.

Opportunities are provided for industrial and vocational education majors as well as teachers to accumulate information about industries through local and distant on-site visits to industries. A third credit may be earned by showing evidence of application of data collected in courses being taught. **R \$**

TECED-437 Organization/Management of Technical Laboratories 2 cr.

Summer Session

Experience in administration, project development and teaching problems associated with industrial education.

Prerequisite: TECED-205.

TECED-438 Course Construction 2 cr.

Spring Semester and Summer Session

Directed experience in curriculum development and course of study construction for industrial education teachers; development of behavioral objectives and of instructional

materials to help reach these objectives; development of course of study, instructional package/unit of instruction.

TECED-460 Advanced Curriculum, Methods and Assessment for Technology 3 cr.
Spring Semester

Development and implementation of lessons, demonstrations, lab activities, evaluations, and classroom management plans.

Prerequisite: Completion of Benchmark I; TECED-260.

TECED-488 Internship Teaching 2-8 cr.

Fall and Spring Semesters

An alternate method of obtaining student teaching experience. Teacher interns receive a license to teach and salaried appointments in cooperating school systems for one full semester.

TECED-489 Internship Teaching 16 cr.

Fall and Spring Semesters

An alternate method of obtaining student teaching experience. Teacher interns receive a license to teach and salaried appointments in cooperating school systems for one full semester. Admission to student teaching. **R**

TECED-498 Field Experience 1-2 cr.

Fall, Spring and Summer

TECED-498E Field Experience 1 cr.

Fall, Spring and Summer

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TECH Technology

TECH-230 Exploring Technology 2 cr.

TECH Fall, Spring and Summer

Aspects of technology: definitions, present characteristics, history, forecasting, transfer, assessment, impact and systems.

TECH-295 Honors Seminar in Technology 2 cr.

TECH Fall and Spring

Addresses a wide range of technological concepts along with examples of how technology impacts our lives as individuals, a society, and a global community. Delivered in seminar format. Acceptance Into Honors Program.

TECH-332 Futures of Technology 2 cr.

TECH Fall Semester

Concepts of future studies as applied to technology. Exploration of possible alternatives. Techniques and skills for the professional user and the citizen consumer.

TECH-340 Future of Work 1-2 cr.

Future possibilities as to why people work, who will work, and in what conditions. Project probable work parameters from current trends. Relate past, present, and future to students' individual work situations.

TECH-375 Workshop 1-3 cr.

Fall, Spring and Summer

Special topics providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. **R**

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THEA Theatre

THEA-131 Theater Practicum .5-1 cr.

HUM CRPRF Fall and Spring Semesters

Participation in acting, stagecraft, lights, sound, makeup, costumes, properties and business in university theater productions. **R**

THEA-232 Introduction to the Theater 3 cr.

HUM CRPRF Fall and Spring Semesters

Development of theater arts from ancient times to present; play styles, production methods and audience appreciation; representative plays.

THEA-334 Contemporary Theater 2 cr.

HUM CRPRF Spring Semester Analysis of selected plays; structure, dramatic content and production methods.

THEA-336 Stagecraft and Scene Design 2 cr.

HUM CRPRF Spring Semester

Technical problems in producing plays; set design; constructing, painting and handling scenery; stage lighting, makeup, costuming, sound and visual effects, organization of production staff.

P: THEA-232.

THEA-338 Play Production 2 cr.

HUM CRPRF Fall Semester

Directing and acting techniques in play production; selecting, rehearsing and producing scenes for class.

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TRANS Transportation/Energy

TRANS-202 Transportation Systems 2 cr.

TECH

Effects of transportation on society. Comparisons of transportation modes on relative costs, speeds, reliability, efficiency, and more. Examination of vehicle structures, propulsion, suspension, guidance, control and support systems.

TRANS-203 Transportation Systems Lab 1 cr.

Applications and reinforcement of transportation modes. Special projects and field trips.

TRANS-204 Energy Technology 2 cr.

TECH

The nature of energy, its discovery, conversion, and harnessing. Economic, environmental, political and social ramifications of energy-related choices.

TRANS-205 Energy Technology Lab 1 cr.

Mechanical, electrical, fluid and thermal power projects.

Prerequisites: take TRANS-204.

TRANS-395 Seminar 1-2 cr.

Specific content is designed to upgrade competencies of participants. Content will change to reflect current state of the art in electricity/electronics or power mechanics. **R**

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TRDIS Transdisciplinary

TRDIS-101 Seminar in Career Exploration 1 cr.

Fall and Spring Semesters

Identification and analysis of individual career interests, values, needs, skills, and goals. Investigation of resources for career planning and development, including educational programs, job market information and employment opportunities. Development of individual career plans.

TRDIS-120 Strategies for Academic Success 2 cr.

Develop study skills strategies, note taking and test-taking techniques, time management, goal setting, and textbook reading comprehension. Application of principles leads to academic success at the university.

TRDIS-200 Short-Term Cultural Experience 1 cr.

GLP Spring Semesters

Short-term travel experience to U.S. regions delivered through Student Support Services grant-funded program. Available to active, participating students. Instructor's consent required. Sophomore level or higher.

TRDIS-297 Wisconsin in Scotland Field Experience 3 cr.

Fall and Spring Semesters

International field experience as unpaid volunteer in a business, educational, social service, or other non-profit organization in Scotland. Must be enrolled in Wisconsin in Scotland study abroad program.

TRDIS-350 Applied Foreign Language Project 2 cr.

GLP

Application of foreign language to the context of a career related to the student's major program. Vocabulary, written communications, and oral interaction in the primary language of the Applied Foreign Language minor. 16 credits in a Foreign Language.

TRDIS-477 International Study 1-16 cr.

Inter-institutional credit exchange for students accepted in university-approved study abroad or international exchange programs offered through the office of international programs at recognized/accredited institutions in other countries. The course may be repeated. **R**

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TRHRD Training and Human Resource Development

TRHRD-360 Training Systems in Business and Industry 3 cr.

Fall, Spring, Summer and Winterm

Types and purpose of training as related to business and industry. Training analysis, content, delivery systems, evaluation and justification for training. Designed for non-education majors.

TRHRD-370 Training Methods in Business and Industry 2 cr.

Fall, Spring and Summer

Identification of training situations where the development and delivery of training is needed. Emphasis is on methods to deliver a training session. Students will be required to make training sessions presentations.

TRHRD-375 Workshop 1-3 cr.

Fall, Spring and Summer

Special topics providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. **R**

TRHRD-389 Training Internship 2-8 cr.

Fall and Spring Semesters

Opportunities for students to learn and practice training management and instructional techniques through activities and experiences in a training department. Objectives commensurate with student's background and field of training. Activities include designing and implementing training programs in student's major or minor field of study in either industry, business, military or government training programs.

P: TRHRD-360. **R**

TRHRD-400 Workshop 1-3 cr.

Fall, Spring and Summer

Special topics in training and human resource development providing hands-on or experiential learning activities. Specific content and title to reflect topic of the workshop. **R**

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The Undergraduate Bulletin

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WS Women's Studies

WGS-210 Introduction to Women and Gender Studies 2 cr.

INTER ESB Fall and Spring Semesters

An examination of the experience of women in American society, their past and present contributions and roles, and perspectives on the future.

WS-310 Women's Studies Practicum 1-3 cr.

Application of women's and gender studies principles to the development of leadership skills and service priorities in an organizational environment. P: WS-210.

WS-311 Topics in Women's Studies 1-3 cr.

Exploring, from interdisciplinary perspective, new information and ideas in a selected area of significance to women's studies. P: WS-210. **R**

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